Teachers' Practical Judgment: Acting in the Face of Uncertainty

by

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Abstract

The current educational context in British Columbia is characterized by standards-based curriculum mandates that are narrowing teaching and learning practices, and audit-oriented policies that are causing ‘accountamania’ amongst educators. This study is based on the belief that such directives not only restrict conceptions of teaching and learning, but by attempting to impose certainty in an inherently uncertain endeavour like teaching, they disregard the critical role of teacher deliberations and judgment.

The purpose of this research study was to illustrate and examine the highly complex deliberative processes in which teachers engage. More specifically, the study sought to understand the considerations that teachers take into account when teaching, and, how teachers conceive of their deliberative processes. Drawing on the Aristotelian notion of "phronesis," a key assumption was that there is a relationship between teachers’ overt actions and their tacit deliberations, and that both are key to children’s learning. This study involved three case studies of teachers engaging in conversations about their practical judgments as they observed video-recordings of their teaching.

When deliberating on their actions, participants prioritized: student connections, individual student accommodations, time constraints, lesson momentum, valuing students, and instructional pacing. These particulars were all considered to be in the best interest of the students but they frequently presented dilemmas for the teachers (i.e. meaningful student connections vs. curricular time constraints; and individual accommodations vs. class momentum). The participants understood their deliberative processes to involve managing the resultant tensions by drawing on their practical judgement, which was largely
based on their experience. In phronetic terms, their “practical judgment” allows them to determine what is significant in classroom situations and gives them intimate knowledge of the particulars so they can reason correctly and act appropriately (purposively and responsively).

Given that the participants understood their practical judgment to be integral to their practice, the study outlines some possible implications for teacher education programs, professional development and educational policies. The study concludes with a call for stakeholders to actively work towards cultivating a culture of trust, which would not only be beneficial for the current educational context, but future challenges of education in an increasingly uncertain world.
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Dedication

To the joys of my life:

To my loving husband, Hugh Tait, for his unwavering support and confidence.

Your integrity inspires me.

To our daughter, Heather, for her gentle nature and loving self.

Your kind heart warms mine and fills my life with joy, each and everyday.

To our son, Kevin, for his powerful connections and loyal self.

Your presence is a gift to me.
Chapter 1: The Problem and Its Context

I will begin this first chapter by setting out the current context of teaching in British Columbia (B.C.), focusing the discussion on two underlying assumptions of current educational policies. Given this context, I will then sketch the general problem area, before going on to identify the two research questions of this study.

Contemporary Context of Teaching in British Columbia

Citizens desire a quality education for present and future generations; however, the current educational standards-reform approach in B.C. is based on two ill-considered policies. These policies attempt to improve educational outcomes by mandating increasingly prescribed standardized curriculum assessed through the use of standardized tests, and by increasing the number of "accountability" measures in our educational system. As an elementary teacher currently practicing in B.C., I believe that these two policies are misguided attempts to mandate certainty in an inherently uncertain endeavour, and they are having deleterious effects on our teachers, our educational discourse, and ultimately on our students. The first section of this chapter will critically examine these assumptions by way of setting the contemporary context of teaching in British Columbia for the current study.

On the Rhetoric of Raising Achievement through Standardized Tests

Standards-based policies have the underlying assumption that raising the prescribed curriculum standards, and then testing student learning by way of standardized tests, can improve the quality of education. This viewpoint suggests that, once developers set curriculum, all that is
required is the simple transmission of this knowledge from the teacher to the learner. A uniform, transmissive approach to education does not take into account such important factors in student learning as socio-economic, cultural, developmental, and language differences. Prescriptive content and lessons do not necessarily produce the same “results” because learner differences and contextual factors are not taken into account. In reality, a prescribed curriculum, regardless of all the best intentions, plans, and teaching strategies, cannot guarantee that all students will meet the exact same standardized curricular objectives.

Of course, there are other crucial questions about developing a prescribed curriculum that educators must consider. Who decides what knowledge is deemed worthy? Which voices are missing from those decisions? The issue of maintaining the status quo is problematic, especially for educators working towards social justice. These issues are extremely important, but are beyond the scope of this paper. For the sake of this discussion, we will use the premise that, even if there could be a consensus on a curriculum to be taught, prescribing any such curriculum will still never lead to the same, standardized results.

However, if one does believe one can set out a prescribed, standardized curriculum for all learners, a logical deduction may be that one can also assess learning by way of standardized tests. This is exactly the purpose of the Foundational Skills Assessments (FSA) for students in grades four and seven, and the Provincial Examinations for grade ten and twelve students, which are administered annually in British Columbia.

While the use of standardized tests is touted in Ministry documents as a way to “improve student achievement” (BCMED, 2003) various research studies highlight a myriad of problems associated with them. These problems relate to the constructing, administering, interpreting and marking of the tests, some of which will now be considered.
Standardized tests rarely, if ever, are constructed to assess problem-solving, higher order skills or inter-social skills, although these are aims that schools are expected to address. For example, a "high risk school" may need to spend a disproportionate amount of time establishing and reinforcing school wide behavior plans, thus taking away instructional time from other subject areas that are "tested." Yet, this school's efforts may have paid off in terms of higher attendance, less vandalism, fewer suspensions, and reduced violence, but nowhere in the comparison of standardized test results will this be reported, recognized, or applauded. It can be argued, then, that thinking about education by way of what can be assessed from multiple-choice and short answer tests, narrows the curriculum from a fuller, in-depth, and well-rounded approach to education (Berliner & Biddle, 1995; Goodson & Foote, 2001; Jones, Hardin, Chapman, Yarbrough & Davis, 1999).

Another concern regarding the construction of standardized tests is that they do not take into account certain indisputable advantages some students have over others due to many factors beyond the control of the student and the schools, not the least being, socio-economic and language differences (Nichols, Glass & Berliner, 2005; McNeil, 2000; Berliner & Biddle, 1995; Haney, 2000; Scheurich, Skria & Johnson, 2000). The undisputable advantages of some students equates to the undisputable disadvantages of other students, which makes such an approach blatantly unfair and unjust.

Then there are difficulties associated with interpreting the results in a reliable manner. In the face of low test results, it is easy to conclude that problems exist with teachers and schools. However, the test results may have more to do with the make up of the student body; for example, there may be a disproportionate number of students with learning disabilities writing the tests in a given year. Even something as simple as student absences could skew the results significantly in smaller schools from one year to the next. Another issue is the subjective exemption category
whereby the Ministry suggests that the test should not be a "psychological hardship" for a student (BCMED, 2003). This is a welcomed, compassionate exemption; however different administrators will choose to use or not use this provision differently, thereby possibly "contaminating" the results. (It is worth noting how the word "contamination" replaces the word "compassion" in this instance.)

The possibility of errors during the grading (computer and human) is a fact of all testing. Indeed, both types of errors have caused havoc in various U.S. states where even more high-stakes testing is present (Schesmo & Fessenden, 2003; Amrein & Berliner, 2002). Another example here in B.C., was with the FSA results in 2002, whereby not one grade four student in the entire province of B.C. scored "exceeding expectations" in writing (BCMED, 2003). This exemplifies the possibility of errors in marking, illustrates the subjectivity imbedded in all assessment, and underscores the danger in investing so much in one tool to assess student learning (Sheldon & Biddle, 1998; Kohn, 2000; Berliner & Biddle, 1995).

All of these issues lead one to question both the validity and reliability of standardized tests, however, policy makers appear unwilling to engage in such thoughtful questioning at this time.

Additionally, there are many other well documented negative effects of standardized testing, such as; loss of instructional time due to extensive use of practice tests; teachers’ narrowing of their own classroom assessments; less successful students concluding that they are unable to succeed and reducing their effort to learn; students valuing test performance more highly than what is being learned; students adopting, as a result of repeated practice tests, test-taking strategies that avoid higher-order thinking; test anxiety, especially among girls; and the inappropriate generalization of test results to overall value or intelligence by students, parents, and others (Jones, et al, 1999; Jones & Egley, 2004; Kohn, 2000; McNeil, 2000; Berliner & Biddle, 1995; Sheldon & Biddle, 1998).
As discussed, then, standardized test scores do not necessarily reflect what they purport to show, they do not reflect the landscape of all the learning that is going on, and they do not take into account unfair advantages some students have over others. Yet, in spite of such shortcomings, the British Columbia Ministry of Education is not only unyielding in its support of testing, but has recently expanded the mandate for more standardized testing as part of the new graduation requirements.

The attraction for adopting standardized tests is the seeming ease with which the results can be gathered, and supposedly interpreted (Berliner & Biddle 1995; Ungerleider, 2003). It appears to be much quicker and “easier” to compare quantitative data (i.e. percentiles, percentages or grade equivalencies) than qualitative data (i.e. learning portfolios). The problem is that the resulting numbers inevitably do a disservice to the qualitative nature of the experience. For example, something as complex as learning to read, cannot be easily or meaningfully summarized in a numerical score. The crucial point being, of course, that the validity of the scores should not be sacrificed for the ease of use of comparing numerical data.

The real irony is that, while present policy makers are insistent on using quantitative indicators of success in the educational system, they are blatantly disregarding available comparative testing studies that indicate that the B.C. educational system is ranked among the top internationally (Ungerleider, 2003). For example, according to the Programme for International Student Assessment (PISA, 2003), the average performance of B.C. students in reading, mathematics and science was significantly higher than the international averages. Within Canada, School Achievement Indicators Programs found B.C. Students performed similarly, as well as or better than Canadian students in Reading and Writing, Science and Math (CMEC, 2002). Other related available statistics show that in 2001, over half of Canada’s working age population (ages 25 to 64)
had postsecondary credentials (StatsCan, 2002). In 2000, Canada had the highest proportion of its working-age population with college or university credentials among OECD countries. (StatsCan, 2001) These statistics can be interpreted as positive indicators of our overall educational system. Yet, this quantitative data, of which the policymakers are avid supporters, are somehow lost in the rhetoric of the calls for the need for increased testing in order to “improve the system.”

On the Rhetoric of “Raising Accountability” in Education

A second way that policymakers have stated that they can improve the quality of education is by increasing levels of accountability in education. When we examine the root word “account”, we find it has many meanings, two of which will be considered here. One meaning is a “statement of transactions during a fiscal period and the resulting balance”; a second meaning is “a description of a facts, conditions, or events; report, narrative” (Merriam-Webster Online Dictionary, 2008). It would appear that pairing the word, “accountability” with the phrase, “standardized test score results” enough times in policy statements has caused the latter qualitative meaning of the word, (of which report cards and parent-teacher interviews are examples) to be replaced by the former economical definition. This is a prime example of words shaping thought, and a reason for major concern amongst educators.

In B.C., the Foundational Skills Assessments (FSA) and graduation examinations results have taken on increasing credibility and authority in the school system since 2003. They have moved from being “a snapshot of student achievement,” (BCMED, 2005) to becoming one of the most (if not the most) reported indicators of achievement in B.C. schools, despite being simplistic measures of a narrowed curriculum. These results have somehow worked their way into discussions of various education issues at all levels among students, parents, school staff, and administration. Case in point, standardized test results are now mandated in every school district accountability
contract and school plan; they are part of virtually every Parent Advisory Council (PAC) and School Planning Council (SPC) goal-setting venture. By repeatedly espousing that these test results are invaluable indicators of achievement, other indicators have become less visible, and have allowed reported test results to become synonymous with “accountability” in the school system.

From my observations, these test mandates have altered the shared discourse of various stakeholders. Consequently, instead of SPCs talking about a well-rounded education for their children, they dutifully focus on an aspect of one year’s scoring results. Instead of district administrators discussing long-term district programs, they become preoccupied trying to explain any slump in district results to school trustees. Instead of teachers planning and implementing criterion-referenced assessment based on performance standards that would inform their instruction the next week, they teach to the FSA tests.

What is more, is that from my perspective, these test scores are driving school district decisions, influencing everything from funding, to staffing, to program initiatives. As well, just as the accreditation process that preceded it, school goals are overriding teachers’ individual, professional plans. For example, an experienced teacher who is already confident, knowledgeable and successful in teaching reading may be forced to forgo her interest in exploring the integration of computers in her classroom because the school goal, founded on school-wide FSA results, is to increase reading scores.

The implications of the added “accountability” mandates are unintended, but serious. The apprehension, angst, and doubt associated with correctly completing the written “accountability contracts” create a culture of panic among educators. I refer to this very real phenomenon as “accountamania”, which is a fear and worry about meeting the paperwork demands, and is not
totally unfounded, due to the possible serious consequences for school districts who do not meet the prescribed criteria, most notably being, cuts to funding.

Another crucial point, from my perspective, is that this “accountamania” is holding the schooling system as a hostage. It is taking time, energy and scarce resources away from the challenging goal of educating students to reach their individual potential. For example, administrators at all levels are coached, but hardly are up to speed on, the “language” of accountability that has infiltrated the system, so they need to make time in their demanding schedules to build systemic structures that satisfy the mandated requirements, while taking into consideration the local context. Then they need to find the time and venue to pass on their understanding of the implications of the accountability and auditing policies to teachers in their district. Individual teachers are frustrated with increasing paperwork requirements that take time away from the very act of teaching. Clearly, using test scores to effect change under the “guise of accountability” (Ungerleider, 2003) has severely changed the professional landscape of the school systems, as educators find themselves within an audit-oriented culture.

The General Problem Area

The two mandates described above have collectively shaped a “techno-rational approach” (Schon, 1987) that is founded on the underlying belief that uncertainty in teaching and learning is either a weakness to be controlled, or a fault to be fixed through tighter mandates and policies. While this approach may in fact be a sincere attempt to cope with the complexity of teaching and learning, it is misguided, because it creates an image of false certainty in an inherently uncertain human endeavour. The outcome is an oversimplification of teaching and learning that is misleading, and yet, is leading policies and decisions at all levels in B.C.
Consequently, what is happening in B.C. is just as Floden and Clarke (1987) warned, "striving for certainty can lead to limiting teaching and education to those parts where certainty is easier to obtain" (p. 8). I contend that this "limiting" of teaching and education has resulted in an overall narrowing of curriculum and narrowing of assessment. Moreover, not only are curriculum and assessment being constrained within these narrow indicators, as McNeil (2000) points out:

When educational practice and policy are subsumed under a narrow set of indicators, then the only vocabulary for discussing those practices and policies is the vocabulary of the indicators (p. xxvi).

In a very real sense, these imposed policies have restricted the shared discourse of various stakeholders to the vocabulary of those policies, with the consequence of having no opportunities for alternative conceptions of teaching and learning. Conversely, recognizing and acknowledging the limitations of the current approach to education would enable us to explore broader conceptions of teaching and learning than those espoused under the narrow confines of the standardized based reforms.

One such alternate conception is based on the underlying belief that teaching and learning is innately uncertain. This is mainly due to the mutable and unpredictable nature of the endeavour that takes place in highly dynamic classrooms, which requires teaching to be highly performative and enacted at an unrelenting pace. The hypothesis of this study is that teachers’ daily work involves highly complex deliberative processes in the face of this uncertainty. Further, their overt actions and accompanying tacit deliberations are key contributors to the learning experiences of our children, and as such, are worthy of study. This study, then, represents a concerted undertaking to document and address some of the tensions and issues in teachers’ deliberations behind their actions in the classroom, for the purpose of broadening our conceptions of teaching and teachers’ work.
The Research Questions

The two specific research questions to be addressed in the study are:

1) What considerations do teachers take into account when deliberating on their actions in/for/about their practice? and,

2) How do teachers understand their implicit deliberative processes, as they view and reflect on their own teaching?

These questions will be explored through a series of three case studies of teachers engaging in reflective conversations about their practice. The primary data source will be a series of ‘stimulated recall’ interviews prompted by a viewing of selected videotape recordings of a series of teaching episodes in each of the three teachers’ classrooms.
Chapter 2: The Uncertainty of Teaching

This chapter will outline an argument for the inherent uncertainty of teaching. This will be accomplished by first locating the present study in the research literature related to the uncertainty of teaching, and then by examining a philosophical perspective that is germane to my overall argument.

In the previous chapter, some of the limitations of the current standards based reforms were discussed. Foremost among these limitations was the failure to acknowledge the uncertainty related to the complex practices associated with teaching and learning. Various writers have described teaching as possessing "inherent uncertainties," (Jackson, 1986) "endemic uncertainties", (Lortie, 1975), and "chronic uncertainties" (Labaree, 2000). Another researcher describes teaching this way: "Teaching by nature is messy—full of complexity, doubts, contradictions, frustrations and ambiguities" (Dudley-Marling, 1997, p. 8).

In the research literature, conditions of uncertainty are associated with: uncertain student factors, uncertain curricular issues, uncertain teacher effects and the uncertain nature of human development. The following overview of the uncertainties surrounding teaching and learning does not propose to be all encompassing, but, rather, offers a synthesis of the relevant literature, and surfaces some relevant questions that teachers may ask themselves, in respect to these sources of uncertainty.

Uncertain Student Factors

Perhaps the most obvious 'student factor' is the immense diversity of students themselves, including, but not limited to, socioeconomic, religious, cultural, linguistic, intellectual, gender,
sexual and social-emotional differences. Consequently, students arrive with different experiences, values, expectations, as well as different emotional, physical, and intellectual needs. As a result, teachers constantly ask themselves questions such as, “How can I best meet the variety of student needs in my classroom? Which methods and resources will enable me to meet the diverse needs of my students?”

Lortie (1975) talks about the significance of this “grouped context” (p. 142) for teaching endeavours, whereby teachers create general rules for the whole class, but at the same time, have the aim of individualized instruction. An ongoing tension for teachers is: ‘How can both be facilitated simultaneously?’ This constant pressure has been described as one of the inherent dilemmas of teaching, namely, of individual vs. group needs (Berlak and Berlak, 1981). Another pertinent question for teachers, then, is: “How do I equitably allocate my time to students of differing levels of need?”

An additional student factor worth considering is the notion that learning can only occur with the active cooperation of students (Fenstermacher, 1990). Labaree (2000) refers to this as the necessity for “client cooperation,” and he compares how this is different from surgeons or lawyers, who do not need to consider the cooperation of their clients when doing their job. Dewey (1991) illustrated this point using a sales metaphor, whereby one can’t be a good salesperson unless someone is buying.

A related point, according to Lortie, (1975) is that the teacher is responsible for motivating each learner, of whom at least some would rather be elsewhere, doing something else. Labaree (2000) refers to this as the “compulsory clientele,” variable. Lortie also denotes an “immature workers” factor, as the need for students to be taught how to do their work, as well as ensuring that they do their work. He compares this with other positions, which are only responsible for ensuring
workers complete their work to competency, but do not hold the responsibility for teaching them how to do their work as well. As such, teachers need to ask questions such as, ‘How can I best motivate this particular student, as well as this group of students? How can I manage the variety of motivational needs at the same time?’

Along with these differences, is the issue of “emotional management” (Labaree, 2000). While other professionals are appraised by how well they solve a specific problem, teachers have the goal of promoting intellectual development and, at the same time, they must continuously consider the emotional well being of students, as both are fundamentally linked. Another interesting consideration is that, while other professions have a universalistic rule of procedure to sustain emotional distance, or detachment, from clients, teachers must determine what amount of persona is required to ensure a classroom emotional climate that promotes learning (Lortie, 1975). McDonald (1992) gives an example of the teacher asking if a student need more encouragement or more criticisms about their writing at any given moment. Being responsible for every student’s learning, as well as their individual well being within a diverse group of students, presents many questions and challenges for the teacher.

**Uncertain Curricular and Educational Goals**

The second category of uncertain factors is one that is well discussed in educational literature, namely the uncertainty regarding the curriculum and educational goals (Lortie, 1975; Hargreaves, 1994; Hawley & Valli, 1999; Floden & Clark, 1988). From an outside view, this may seem almost inconceivable, given the perception that there are mandated curricular guidelines that should adequately address any uncertainty in curricular goals. On closer examination, however, there is actually much ambiguity regarding competing knowledge claims, contrasting goals, and issues of assessment within these guidelines.
One reason for the uncertainty of the curriculum is that desired educational outcomes are multiple and diffuse (Lortie, 1975; Hargreaves, 1994; Eraut, 1987). Not only are educators responsible for students' intellectual, physical, moral and social-emotional development, schools are being given increasing responsibility for social issues such as poverty and malnutrition. Teachers are also called upon to raise awareness of the dangers of alcohol and drug abuse. Moreover, one may find topics ranging from global warming to driver safety on the curriculum (Ayers, 1993; Hargreaves, 1994). These broad goals are part of the continuous changing of curriculum guidelines and materials (Floden & Clark, 1988). Further, directives from various external stakeholders (i.e. new Ministry of Educational mandates, School District initiatives, and parental pressures) constantly revise and influence stated educational outcomes.

Even the disseminating of "given facts" becomes uncertain in these post-modern times. Hargreaves (1994) notes that,

> scientific knowledge is more provisional, and the validity of a curriculum based on given knowledge and incontrovertible fact becomes less and less credible (p.57).

Take, for example, the subject area of geography where the political borders have changed dramatically in recent times. A related issue is not having updated educational resources to meet the prescribed goals, causing teachers to ponder: "How can I prepare students for the information age with "antiquated resources (Costigan & Crocco, 2004, p. 8)?”

A central component of teaching is that these multiple criteria and goals must be dealt with simultaneously (Lortie, 1975; Labaree, 2000; Jackson, 1986). As such, there is perplexity about how to plan, to best 'balance' them, or 'weight' them. Additionally, teachers need to decide between “coverage” of curricular objectives, versus teaching for “mastery” of certain curricular
goals (Jackson, 1987). They also need to ponder, “Do some objectives need to be emphasized, (due to the needs of the class) and if so, and at the cost of what other objectives (Eraut, 1994)?”

Compounding the issue of curricular uncertainty is the fact that many teaching goals are intangible (Lortie, 1975; Labaree, 2000). “What does it mean, for example, to prepare students for democratic citizenship” (Hawley & Valli, 1999, p. 130)? Teachers ponder such questions as: “How can this goal be assessed? When should this goal be assessed? Should this be assessed after one lesson? One unit? One school year? Or, is this an example of a fifteen-year plan, which can only be assessed later on “as their adult citizenship unfolds” (Lortie, 1975)?” These questions raise the uncertainty regarding short-term versus long-term goals of educators, as well as, how, and when intangibles can be assessed (Floden & Clark, 1988).

While the shortcomings of using standardized tests to assess student learning were discussed earlier, some other issues related to testing in general, will be mentioned here. Floden and Clark (1988) remind us that, while a poor test score may in fact be evidence of lack of knowledge, results may be compromised by student carelessness, fatigue or emotional factors; conversely, a student’s score may be over-inflated, due to luck, deductive guessing or even fortunate misunderstandings. Such tests may help assign letter grades, and student rankings, but Floden and Clark argue that at best, the results are general indicators of student understanding. Ongoing methods of assessment (including teacher observations, portfolio of work, interviews) may be more valid indicators of understanding, but take much more time and energy (Guskey, 2003). A key question for teachers is, “How can I efficiently and effectively assess this objective?”

Uncertainty of Teacher Effects

The third category of factors to be considered relates to the assertion that we are unable to adequately assess the effects that teachers have on students (Lortie, 1975; Hargreaves, 1994; Eraut,
1994). That is to say, there is a chronic uncertainty of the effectiveness of teaching because there is so much ambiguity in the “authorship” of the effect on the students (Lortie, 1975). Obviously, parents are significant individuals influencing students, but there are other significant individuals influencing the child’s development—including but not limited to, family members, community members, coaches, peers, media, as well as their own unique set of experiences. Who, for example, can demonstrate that their actions are the reason for any specific area of a child’s development? Who can claim that they are the mitigating factor for little Robin being motivated to practice her reading at home every night? Or, for inspiring Min to take risks in his art? Or, for enabling Davinder to try out for the basketball team? Or, for being instrumental in Tyroy passing his provincial exams? These questions focus on direct vs. indirect outcomes in education, (Hargreaves, 1994) which are further compounded by short-term vs. long-term effects (Eraut, 1987).

Of course, the difficult nature of determining the direct effect of teaching does not undermine the fact that, if a teacher gives a clear explanation that engages students in a concept to be learned, there is a very good chance that many (maybe even the majority, or even, all) of the students will learn that concept (Floden & Clark, 1988). Therefore, methodical educational research has a very important role to play in connecting teaching activities with student learning. However, as Floden and Clark (1988) point out:

research has not permitted and probably will never permit accurate prediction of what this child will learn from this lesson taught in this way by this teacher in this school (p. 506).
Uncertainty of Human Development and Relations

The last group of uncertain factors I will consider is founded on the seemingly overlooked, but fundamental tenet that human beings are ultimately unpredictable (Hawley & Valli, 1999; Floden & Clark, 1988; Lortie, 1975).

The relationship between teaching and attainment of goals one seeks to attain is uncertain, because the effects of particular instructional practices depend, among other things, on many circumstances that practitioners cannot know about, or even affect. For instance, children vary in their readiness to learn from day to day from subject to subject in ways difficult to predict (Hawley and Valli, 1999, p.130). As such, teaching and learning is “always contingent on a vast array of intervening variables that mediate between a teacher’s actions and a student’s response” (Labaree, 2000, p. 230).

Some of this variability has to with the ongoing, constantly changing nature of human development. In her book entitled, The Impossible Professions, Malcolm (1982) talks about the uncertainty related to professions that deal with others’ “personal betterment.” She notes two of the challenges as being that personal improvements often can’t be defined with any precision, and that it is difficult work that requires concerted time, energy and effort. Additionally, the client needs to have faith that hard work now will be worth it later. Accordingly, Malcolm offers that the professional has “absolute vulnerability to clients’ abilities, interests and whims, in ways unknown in other types of professions” (p. 56).

Just as the word “uncertainty” can mean “indefinite, indeterminate, variable, imprecise, undefined, unknown in advance,” or “unlimited,” (Merriam-Webster Online Dictionary, 2008) all of these terms can be used to describe humanity itself. As teaching is a human endeavour, all of these words can be used to describe it, as well. Consequently, just as human development, and
therefore, learning, can be said to be never-ending, teaching can be said to be open-ended (Lortie, 1975; Hargreaves, 1994). Or, as Ayers (1993) observes, “Teaching is spectacularly unlimited” (p.9). Teaching is never completely “done” in the sense of achieving all of the simultaneous goals discussed earlier. There is always one more lesson, resource, strategy, approach or method that could be done for the benefit of the students. The open-ended nature of teaching and learning leaves teachers uncertain if they have “done enough” for their students (Hargreaves, 1994).

Continuing with this theme of having ‘done enough’, “teaching can become an unending process of constant giving” (Hargreaves, 1994, p. 148). This notion of teaching as constant ‘giving’ is closely related to Noddings’ notion of teachers’ “care” (1988; 1992), which produces even more uncertainty, because, “while teachers believe it is important to care, they can ... never really care enough” (Hargreaves, 1994, p. 148). As a result, teachers constantly question themselves about the role of “care” in their work. They question disappointing student outcomes in terms of, not only had they done enough, but also had they cared enough? What if they cared ‘more’ next time? Would the results be different? If so, how would caring ‘more’ look differently (Hargreaves, 1994)?

All of the previously mentioned uncertainties of teaching and learning can be emotionally challenging and draining for teachers. As Lortie (1975) puts it:

Teaching demands... the capacity to work for protracted periods without sure knowledge that one is having any positive effect on students. Some find it difficult to maintain self-esteem (p. 144).

The impact of the many uncertainties can create stress for teachers, undermine their sense of professionalism (Lortie, 1975; Floden & Clark, 1988) and cause them to feel uncertain about their progress as teachers (Floden & Clark, 1988). Lortie (1975) has continued with this thinking suggesting that two realities of a teaching career adds even more to this uncertainty, including total
immersion into the full profession from induction, and lack of clear career steps (i.e. apprentice) within teaching.

**Locating the Present Study**

Yet, in spite of all of these uncertainties, and in the face of being beset with the complexity of managing the uncertainties, teachers act with apparently “assured actions” (Fox, 1957). Labaree (2000) discusses how teachers give the appearance of “making difficult practices...look easy” (p. 67) to those outside the teaching profession, because others are unaware of teachers’

niggling question, doubts, dilemmas, ambiguities, contradictions and contingencies with which teachers struggle to make sense of, and respond to, in their complex classroom contexts (p. 67).

While there is a body of current research that focuses on identifying and describing effective teaching strategies that are observable and identifiable (Darling-Hammond, 1999), what is missing is research that:

focuses on gaining access to accompanying thought-processes (which) provide an essential new dimension to what would otherwise be pure observation (Eraut, 1994, p. 39).

While Schön’s (1983) influential work regarding teacher as “reflective practitioner” offers valuable contributions to understanding some of the thought-processes of educators, he has stated that what is needed is for more educational research on “how practitioners conduct their practices” (p. 392), lamenting, “…a crucially important dimension (of teaching) tends to remain private and inaccessible to others,” (p. 43) and has called for research focusing on the accompanying tacit thought processes.
Other writers concur. Calderhead (1981) states that such research may not only provide useful, but “essential information in the description of teaching processes” (p. 212). Shavelson (1983) offers the following:

The need for research on teaching to examine not only teacher behaviours, but also their judgment, and decisions and the relationships of these to behaviours is justified on several grounds. First, a solely behavioral model is conceptually incomplete because it cannot account for predictable behaviour variations among teachers arising from difference in their goals, judgments and decisions. A second justification is that research linking teachers’ intentions to their behaviors will provide a sound basis for educating teachers and implementing educational innovations (p. 392-393).

There is a need for research that makes the normally hidden thought processes behind teachers’ practices that ‘look easy’ accessible, to gain understandings of the complexity of teaching. Woods (1993) offers what is needed “is research to make these private understandings public, for the goal of increasing our understanding of teachers’ work” (1993, p. viii). This is critical, according to Woods, because:

There are said to be crises of confidence in professional knowledge and in the teacher’s role. ... If, therefore, we can document and evaluate some of their exceptional work, it might sharpen general views of its efficacy, demonstrate the nature and degree of teacher skills and help justify particular conceptions of the teacher role which allows scope for these particular endeavours (p. viii).

Research that documents verbalizations of implicit thought processes behind teachers’ actions is a means to “give teachers’ voice” (Goodson, 1992). Such opportunities could provide space for their verbalizations of their realities, their perspectives, their justifications and their reasons for actions, which is sorely lacking in the research literature. And, as Hargreaves (1994) warned,
Failure to understand teachers' voice, is failure to understand the teachers' teaching. For this reason, our priority should be not merely to listen to the teacher's voice, but also to sponsor it as a priority (p.11).

This present study, then, is an attempt to explicitly document the critically important implicit thinking behind teachers' actions, through the voices of teachers.

**A Philosophical Perspective**

A philosophical perspective that offers some further insight for the study of uncertainty in teaching can be found in Aristotle's intellectual virtues. I will briefly outline these virtues below, with a particular focus on phronesis, which will be shown to privilege the particulars of a situation.

**Overview of Aristotle's Intellectual Virtues**

According to Aristotle, there are five intellectual virtues, namely: episteme, sophia, techne, nous and phronesis (Dunne, 1993). These can be subdivided into two general categories, the first two being types of theoretical knowledge, while the latter three are oriented toward acting or practical ways of knowing. Each of these will be briefly defined here, before attending to my main focus of phronesis.

Episteme is a form of theoretical knowledge, or as Dunne describes it, “real knowledge that is separate from opinion” (1993, p. 237). This knowledge is a product of disciplined inquiry requiring particular forms of justification and agreed upon rules of evidence. Epistemic knowledge is often described as “justified, true belief” and is limited to things to do with “eternal beings,” which include such things as “mathematical entities” and “heavenly bodies” (Dunne, 1993, p. 238). This knowledge can be traced back by using principles, causes and logical syllogisms. The highest level of philosophical knowledge is sophia, or wisdom (Dunne, 1993). Aristotle wrote that
to achieve sophia is divine, as it requires a love of devotion of theory and of contemplation. He also wrote that, “sophia can be taught, but it requires dedication and discipline” (Dunne, 1993, p.238).

Practical knowledge can be divided along the lines of two kinds of activity for humans, according to Aristotle (Dunne, 1993). The first type of activity results in making a product, and the second type results in acting. When an action is aimed at making, or fabricating something that terminates in a product or outcome, techne (poiesis, or productive knowledge) is required. The knowledge related to this second type of activity is a “reasoned capacity to make,” and it “resides with the producer, not the product” (Dunne, 1993, p. 249).

Techne has a form, and the reasoning used can be traced back from the product (Dunne, 1993). Techne involves knowing the why and the cause. There is a close relation between techne and theory, “because the person must go to the theory and know it” (Dunne, 1993, p. 284). This has been referred to as the “paradigm of craftsmen” (Dunne, 1993, p. 250). In actions where there is an end (often a product) an appraisal of the techne is possible, by how well the product meets stated standards and intents. As such, productive activity involves “knowledge and skill (techne) which are used to accomplish ends” (Coulter & Wiens, 2002, p. 116).

Nous (intuitive perception) is the “intuitive grasp of the primary principles (theory) and the ultimate particulars of a situation, or sphere of practice” (Dunne, 1993 p. 297). Humans use nous when forming perceptions. Further, the intuitive reasoning of the individual using nous can be traced back.

Aristotle contends that some activities of humans are “more performative than productive” (Dunne, 1993 p. 255). The second group of activities that Aristotle differentiates is that of acting.
"Making implies another end, while acting is itself an end" (Dunne, 1993 p. 263). Those activities that are more performative (than productive) require praxis. Praxis is conduct in a public space with others in which a person, ... acts in such a way to realize excellences that he has come to appreciate in his community as constitutive of a worthwhile way of life (Dunne, 1993, p. 10).

This "knowledge that is fitted to praxis" (Dunne, 1993, p. 10) is practical knowledge, which Aristotle calls "phronesis."

One critical difference between poeisis and praxis, is that the former involves activity towards another end, while the latter is itself an end (Dunne, 1993). According to Aristotle, human beings act more than through instinct and the notion of phronesis enables humans of acting morally, as involving actions that do not have an instrumental aim, but rather, "the aim should be good and just action" (Dunne, p. 265).

Phronesis

Aristotle's conception of "phronesis" has influenced the work of numerous contemporary scholars. However, it has been suggested that there is no direct analogous modern English term (Raz, 1978; Saugstad, 2002). Still, various terms have been proposed, including "practical wisdom," (Smith, 1999; Kessels & Korthagen 1996; Phelan, 2001) "prudence," (Dewey, 1933; Saugstad, 2002; Birmingham, 2004) "discernment," (Dewey, 1933; Nussbaum, 2001; Fenstermacher & Richardson, 1993) "embodied judgment" (Beiner, 1983) and "practical judgement" (Steinberger, 1993; Fenstermacher & Richardson, 2005). All of these terms have tried to encapsulate the definition of phronesis, as a type of:

moral virtue which involves having a true understanding of what is good for the best for humans and governs the person to act morally, based on correct deliberations (Saugstad, 2002, p. 380).
Aristotle contends that practical knowledge and theoretical knowledge are qualitatively different, and need to be, because practice is mutable, indeterminate and particular (Nussbaum, 2001). Indeed, if these characteristics were not true of practice, then a “general principle would be available, and there would be no reason for practical knowledge” (Dunne, 1993, p. 312). The changeability of practice never foretells which general rules or principles should be used, or which one will be appropriate in the individual situation.

As such, techne alone is not sufficient for human interactions, such as teaching (Eisner & Jacks, 2002) and it does not involve simply the application of techne. Further, Aristotle doesn’t offer movement from techne to experience, as techne remains aloof from experience, abstracted from it, rather than higher ordering directive from it (Dunne, 1993, p. 297).

This is so because techne does not primarily concern itself with actions.

Conversely, the function of practical knowledge is to govern actions. According to Aristotle, in the practical world, it is not enough to know what to do (i.e. having the techne) but it is through the actions itself that phronesis presents itself. Stated differently, “humans can have phronesis, not by knowing only, but by acting” (Dunne, 1993, p. 291). And it can also be said, that practical knowledge “is the ability to act, so that principle will take a concrete form” (MacIntyre, 1966, as quoted in Birmingham, 2004, p. 74).

Further, the ethical knowledge of a person is an essential characteristic of phronesis, according to Aristotle. “The origin of phronetic action can’t exist without both intellectual and moral conditions of the mind” (Dunne, 1993, p. 264). Phronesis, then, is not formulated knowledge, but is “loosely bound up with the kind of person one is” (Dunne, 1993, p. 266).

As such, Aristotle proposes that you can’t consider the actions as separate from the person. The person’s character, in striving to do the right thing in each and every situation, is a set of
dispositions that allows them an “eye of the soul,” (Dunne, 1993, p. 302) which enables the correctness of insight.

Aristotle proposes that “knowledge and virtue are unitary experiences of virtuous persons in action” (Dunne, 1993, p. 282). The moral aim of phronesis is:

> a good and worthwhile life (eudaimonia) where the means are integral to the end, and how we go about leading such a life cannot be separated from that life (Coulter and Wiens, 2002, p. 116).

Therefore, phronesis, by definition, “can’t be appropriated for unphronetic acts” (Dunne, 1993, p. 268) and cannot be instrumentalized as a means to another end. Phronesis as a way of knowing, will guide action, and result in more sensitivities and insights, which result in increased virtue. Further, an individual gains “greater moral sensitivity with experience, and a virtuous disposition grows out of repeated performance of good acts” (Dunne, 1993, p. 271). As such, phronesis includes virtuous character, which allows the person to reach the right conclusion, at the right time, on the basis of right arguments (Saugstad, 2002). It involves “purpose, virtue, cognition (what is right) and is infused with moral virtue” (Dunne, 1993, p. 275).

From this brief introduction, we can arrive at a working definition of phronesis as a form of “practical wisdom”, or “embodied judgment” which is “a state of grasping the truth, involving reason, concerned with action about things that are good or bad for a human” (Hansen, 2001, p. 839).

A main difference between theoretical knowledge and practical knowledge is that the latter does not and cannot have exactness, due to the nature of practical life. As such, phronesis can’t be appraised as productive knowledge can, in terms of a final product or state, but rather through
acting appropriately in each unique situation. Acting appropriately, then, "is by definition, an integral part of phronesis" (Dunne, 1993, p. 264).

Further, appropriate actions can only be determined by the concrete demands of the practical situations before an individual. Because actions originate from particular situations, the individual must concern themselves with the particulars before them. Therefore, an individual is required to apply themselves to adequately comprehend and deliberate on each case, as the "element of indeterminateness is removed only through confrontation with particular cases" (Dunne, 1993, p. 310).

A critical point for Aristotle is that, in practical matters, not only do the particulars of the case need to be taken into account, the particulars need to be given priority over the general. Aristotle did not believe that knowledge based on generalities was more advantaged than that based on the particular, because doing so, "limits and damages the richness and breadth of human experience" (Coulter, 2004, p. 4). Ignoring the situatedness does a disservice to those humans engaged in that endeavour, and reduces such endeavours to simply actions and consequences.

Aristotle’s notion of phronesis as outlined above, and specifically, the priority of the particular over the general in phronesis, is the main theoretical framework used to interpret the deliberations of the teachers of this study.

One final noteworthy point is that while Aristotle “disagreed with reliance on knowledge that privileged general over particular,” (Coulter, 2004, p. 4) his writing clearly indicates that he considered the life of contemplation towards sophia as more desirable, as having the “highest fulfillment” (Dunne, p. 238):

The aim of praxis is to lead a good and worthwhile life by matching ends and means via phronesis; determining a good and worthwhile life, however, is ultimately the
result of contemplation or study and its particular form of wisdom *(sophia)* (Coulter and Wiens, 2002, p. 116).

As such, there is an argument that phronesis includes sophia, in "deciding what counts as a good life, acquiring the requisite knowledge and virtue, and matching that knowledge and virtue to particular situations understood correctly" (Coulter and Wiens, 2002, p. 116). While this "scholars’ conundrum facing Aristotelian scholars," (Dunne, 1993, p. 238) is beyond the scope of this paper, it is still significant, and will be relevant to our analysis.

**Dreyfus and Dreyfus: Experience and Contextual Understanding**

Aristotle proposes that phronesis develops through practical experience. Another theoretical perspective that adds to this conversation is the work of Dreyfus and Dreyfus (1986) who have attempted to study the relationship between experience and performance. While I find the structure of their work to be somewhat problematic in that it takes on a "model" of performance with five "stages of skill acquisition," (Dreyfus & Dreyfus, 1986, p. 20) their descriptions and theorizing provide some valuable contributions regarding the contextual understanding of experienced individuals. A brief overview of their work will provided here for the reader.

'Novices' focus on the facts, characteristics and the rules for the new skill being learned, and as such, are context independent. Their performance is evaluated by how well they apply the rules. These first rules, "allow the accumulation of experience" (Dreyfus & Dreyfus, 1986, p. 22). However, after they learn a number of rules, they get bogged down as they start to consider more of the rules that are new to them. This takes away from increasing their performance of the skills. At this point they move onto the next level of 'Advanced Beginners.' At this stage, individuals
have some experiences to draw on, and start to see similarities in situations. They use trial and error that includes some general rules, but also some situational factors.

With more experiences, individuals can move onto the third stage of ‘Competence.’ More experience means more similarities that are recognized. However, they become overwhelmed with the number of similarities they have encountered and become unable to prioritize. During this stage, they learn how to prioritize, both from others, and from themselves. According to Dreyfus and Dreyfus, (1986) these individuals begin to set goals and plans. Setting goals and plans help them learn on which key situational factors to focus. Also, by setting plans, the person becomes “intensely involved in what occurs thereafter” (Dreyfus & Dreyfus, 1986, p.26). With this personal involvement,

An outcome that is clearly successful is deeply satisfying and leaves a vivid memory of the plan chosen and of the situation as seen from the perspective of the plan. Disasters, likewise, are not easily forgotten (p. 26).

Dreyfus and Dreyfus (1986) refer to these first three stages as a “Hamlet” (p. 28) model of decision-making, because individuals consider all the options, and then decide amongst the alternatives, or they simply follow the rules. Their model also suggests that not everyone will get to the final two stages. Those individuals that do continue to the next two levels do not simply need more analytical rationality because the analysis of rules and universal solutions would result in extremely slow reasoning, and would encumber further improvement of performance. Dreyfus and Dreyfus suggest that increasing competence is not a result of the accumulation of the whole knowledge of the individual, but rather, individuals concentrating on situational factors. Individuals at this level have an intimate knowledge of concrete cases (by way of good examples) which increases their response speed and allows them to ‘think on their feet’.

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‘Proficiency’ is based on an individual’s prior experiences, expectations, plans and actions. This perspective allows certain features of the situation to “stand out as salient, and others will recede into the background and be ignored” (Dreyfus & Dreyfus, 1986, p.28). This perspective contributes to the development of intuition and judgement. Individuals use their intuition and judgment to “remember similar situations, with key similar features, and anticipate possible outcomes and possible action plans to make their choice of decisions” (Flyvbjerg, 2001, p. 16). Their choice is not “sequential” as in earlier stages, but rather, “a choice is simply made, based on their interpretation of the situation and their intuitive judgement, based on the memory of their earlier experiences” (Flyvbjerg, 2001, p. 16).

From the view of Dreyfus and Dreyfus, (1986) few individuals will ever reach the last stage of ‘Expertise’, which includes “fluid performance” (p. 32). This stage does not utilize a problem-solving schema, rather, just doing what “works” in familiar situations. Their model suggests that this is possible for these individuals because

they have reached a level that intuitively recognizes situations, strategies, and actions holistically and in synchronicity, based on being able to discriminate classes of situations and associate them with responses from their experiences (Flyvbjerg, 2001, p. 21).

There are two aspects of Dreyfus and Dreyfus’ work that are most relevant to the current study. First is their submission that, with experience, individuals move from rule-based context independent reasoning, to increasingly experience-based, situational appreciation. Second, their model suggests that practical experience is more than just the accumulation of examples, but that it relies on intuitive judgment, which is not baseless, but rather, is grounded in experience with similar cases with similar key features. Dreyfus and Dreyfus (1986) propose this intuitive judgment of experienced individuals is “at least as important as analysis, rationality and rules”
(Flyvbjerg, 2001, p. 24). (They argue that this last point is evidenced in the failure of Artificial Intelligence programming to preprogram all potential situations to be considered, and to reproduce the intuitive judgment, by discerning key variables that is needed at the higher levels.) These two aspects of their work will be considered during the analysis of the data from the current study.
3. Methods and Methodology

Introduction to the Chapter

Presently, I will define and describe “stimulated recall” (SR) and provide an overview of the research literature, outlining some potential strengths and limitations of this method. Following this, I will present some merits of the use of the case study and discuss some of the ethical considerations when using these qualitative methods. In the last section of this chapter, I will present the current study design.

Defining Stimulated Recall (SR)

As outlined last chapter, the two key question of this study, are “What considerations do teachers take into account when deliberating on their actions when teaching?” and, “How do teachers understand their implicit deliberative processes, as they view and reflect on their own teaching?” One approach that has the potential for making the tacit judgments of teachers explicit for study is “stimulated recall.”

A survey of the methodological research indicates that there are numerous interchangeable terms for “stimulated recall,” including “recall methodology,” (Lyle, 2003) “process-tracing” and “verbalize recall methods” (Gass & Mackey, 2000). With the surge of the accessibility and use of video, added terms now include “video-recall,” (Welsh, 2005) “instant video revisting” (Seong & Brodench, 2003) and “video-mediated recall” (Lodge, Tripp & Harte, 2000). Regardless of the term chosen, the objective of researchers using SR is to make the implicit cognitions of participants overt, for the purpose of study.
Usually these studies depend on a ‘think-aloud’ technique, whereby the participant verbalizes aloud his/her deliberations, which are recorded as data for analysis (Someren, Barnard & Sandberg, 1994). Deliberations can include a wide range of processes including emotions, feelings, observations, thinking or decision-making, dependent on the focus of the study (Welsh & Dickson, 2005). In some studies, the researcher directs the participants during the think-aloud sessions to verbalize or identify only one specific deliberation, (i.e. anger) whereas other studies direct the participants to verbalize an open-ended account of their experience (Lyle, 2003).

The more commonly used SR approach involves having participants go about their practices in real-life contexts, while researchers document aspects of these practices using various tools, including field notes, still photos, audiotapes, or more recently, video-tapes (Pirie, 1996). This observational data is then provided to the participants to prompt, stimulate or “jog their memories”, as it were, to recall their thinking at the time of their behaviour. These verbalizations of their cognitions are then documented, usually through audiotapes or videotapes, and become the data, which are analyzed, coded and interpreted (Welsh & Dickson, 2005).

Gass (2001) points out that various researchers have employed differing recall timelines, including “simultaneous, immediate, delayed, and non-recent.” ‘Simultaneous’ variations have participants actually performing the ‘think-aloud’ as they perform the behaviors intended for study. Sometimes this is referred to as “protocol analysis” (Ericsson & Simon, 1984, p. 84). This approach proposes that it is extremely important that verbalizations trace the exact sequence of the processes; therefore, it is imperative to have the participants verbalize their deliberations as they are experiencing them. However, critics (Pirie, 1996; Marland, 1984) point out that the participants may be over-taxed by trying to complete both simultaneously. The process of having to reflect on the verbalization at the same time as completing the task may influence the cognitions, or the
behaviours, or both. As such, some researchers use an immediate recall timeline, whereby
participants perform their actions and then are stopped for a think-aloud at either set times or task
intervals. While this option may be possible in some settings, it, too, can be criticized for
interrupting the actions, and as a result, may inadvertently change the actions and/or deliberations
intended for study (Welsh & Dickson, 2005).

Both ‘simultaneous’ and ‘immediate’ recall studies place prime importance on the
proximity in time between the behaviours and the cognitions of the participants (Ericsson &
Simon, 1980; Marland & Osborne, 1990). The rationale is that participants’ recall of their
cognitions after the fact affects the validity of the data.

Other researchers use “delayed” recall timelines, in order that the natural actions are not
interrupted for the purpose of gathering data. Gass defines “delayed” as occurring sometime after
the actions, from a few hours up to a few days. Still, other researchers use “non-recent” recall
timelines, which consists of any recall after a few days.

Regardless of the recall timelines employed, all SR methods maintain the underlying belief
that people are not only aware of their inner thoughts, but can recall and verbalize them, if
prompted. Other researchers disagree with this basic premise (Yinger, 1986) and these counter
arguments will be considered a little later in the paper.

Studies using Stimulated Recall Methods

The first use of the term “stimulated recall” is credited to Benjamin Bloom in 1950. He
used this method to compare the thoughts of university students in lectures, opposed to in
discussion groups. He concluded that there were differences in the engagement levels of some
students, and that stimulated recall was “a method of reviving memories” (p.162) for the
participants, so they could verbalize their accompanying thoughts.
As the main goal of SR is to elicit and trace the thoughts of participants, it is not surprising that cognitive psychology was also amongst the first field to use such a methodology. Research conducted by Kagan, Krathwohl and Miller (1963) used video recall procedures for analyzing patients’ cognitions during therapy sessions. The research was conducted in a television studio, as it was the only place where the technology and the technological expertise were available. Since then, a growing number of fields of research have been utilizing the methodology, most notably in psychology, medicine, nursing, psycho-linguistics and organizational behaviour, some of which will now be outlined.

Some SR psychological studies have been designed to study the subjective understanding of patients (Kagan, Krathwohl & Miller 1963; Skovdahl, Kihlgren & Kihlgren, 2004; Welsh, 2005, 1999). For example, a well known protocol called Interpersonal Process Recall (IPR) was developed, using videotaping and think-alouds (Kagan, 1969). Another area where video recall has been used increasingly, is in the area of relationship counselling, including marriage counselling (Welsh & Dickson, 2005; Halford & Sanders, 1988; Gottman & Levenson, 1985). This approach has also been used in counseling for adolescent depression (Welsh, 1999) and between conduct-disorder children and their parents (Sanders & Dadds, 1992).

Medical and nursing journals show numerous studies emerging using SR. Elstein (1972) conducted a simulated medical study that involved investigating the clinical decision making of doctors in a lab setting. More recently, studies have examined the deliberations of doctors while consulting with patients in practice (Coleman & Murphy, 1999). On the SR methodology itself, Coleman & Murphy (1999) concluded, “It is unlikely that GP’s (general practitioner’s) recall of consultation would have been adequate to explore the same type of issues without using video recording as an aide to memory” (p. 100). Another medical study used SR to look at patient
cognitions during consultation (Cromarty, 1996). Research literature in nursing journals show numerous studies emerging that look at the critical thinking of nursing decisions (Daly, 2001). Another area where it has produced some interest is in the area of the supervision of nurses (Hansebo & Kihlgren, 2004). The thoughts of caregivers were the focus of a different nursing study utilizing SR (Hansebo & Kihlgren, 2001).

Recently, studies in the disciplines of psycho-linguistics and organizational behaviour have begun to use video recall methods. Psycho-linguistics have used think-alouds to trace the thinking of participants learning second languages, (Gass & Mackey, 2000) as well as to document the thoughts of instructors (Lindgren, 2002). Organizational behavioral researchers Hansen and Helgeson (1996) have developed various problem-solving heuristics in part, through the use of SR. They completed their studies in lab settings to ascertain decision-making processes of participants given specific tasks under certain conditions.

A number of educational studies have engaged video recall with think-alouds. Some of these have researched teachers’ explanations in curricular-specific areas, including Science, (Butefish, 1990; Meade & McMeniman, 1992) Math, (Peterson & Clark, 1978) and P.E. (Weekes, 1995). Newton, Trevor, & Stoffels (2005) researched teachers’ thought processes in regards to choosing new student materials for a newly introduced curriculum. Such studies focused on understanding of teacher skills in reference to specific curriculum content.

As well, there has been an emergence of studies designed to compare the deliberations of pre-service or new teachers with experienced teachers, which are sometimes referred to as ‘novice-expert’ studies (Doyle, 1977; Borkell, & Livingstone, 1989). Blanton, Blanton and Cross (1994) sought SR to trace instructional decisions by “expert” special educational teachers. Another strand of research has investigated pre-service teachers’ thoughts, as they continued through teacher
training (Morine-Dershimer, 1993; Mellado, 1998) while others have used SR as a method to access the reflections of pre-service teachers (Clarke, 1992). These studies have attempted to make and compare conceptual frameworks of novice and experienced teachers, as they perform their daily work.

Lastly, some educational researchers have used SR to trace the thinking of students (Lee, Landin & Carter, 1992; Boekaerts, 2002). For example, Anthony (1994) was interested in accessing the specific cognitive strategies of students in the mathematics classroom. Anthony proposed that surfacing and comparing strategies would be useful to inform teachers of gaps of understandings of students, as well as to make successful strategies overt for other students less likely to use them independently. McBride and Bonnette (1995) looked at both the teacher’s and at-risk students’ thinking during open-ended activities.

Researchers using these methods conclude that stimulating participants’ recall of their thoughts using SR is valuable and holds great potential for further studies.

**Perceived Strengths of Stimulated Recall**

As noted, researchers in the various disciplines chose SR methods as a plausible method to gain access to data that would otherwise by inaccessible. As such, this is the most cited rationale for using this method (Coleman & Murphy, 1999; Seong & Brodench, 2003; Gass & Mackey, 2001; Pirie, 1996).

Another strength of SR methods is that they can occur in naturalistic contexts, rather than in isolated research settings. This contextual issue is vital when trying to understand the process of thoughts and actions, because shifting to a contrived laboratory setting could impinge on the cognitions, which could affect the actions, therefore changing the subject of the study. The
naturalistic context is welcomed by qualitative researchers (Lincoln & Guba, 1985; Glaser & Strauss, 1967; Goetz & Lecompte, 1984; Anderson & Burns, 1987).

Video-mediated recall has been described as a method that provides accurate, descriptive data from which to work. The “precise and detailed evidence they provide can capture experiences, moment by moment, sequence by sequence” (Anderson & Burns, 1987, p. 67). Albrecht, (1985) suggests that video methods “capture the larger context within which specific human behaviors are situated so that the researcher can comprehend complex, simultaneous social activity” (p. 325). Albrecht (1985) goes on to assert that the recall of the participants is enhanced by using video, because it “simulates the experiences for the viewer” (p. 326).

Other strengths of video-mediated recall include the ease and inexpensive nature of the equipment required. Videos can be watched and analyzed again and again by the researcher, which allows the researcher to focus on many possible layers of stimuli (Pirie, 1996). Because the data is thick, rich and varied, the descriptive report of real life behaviours and decisions give a holistic account of the whole phenomenon, rather than separate individual variables for study (Lincoln & Guba, 1985).

While not without its limitations, some of which will be described in the next section, the SR method, and video-mediated recall in particular, may be viewed as a reasonable approach to tracing and documenting the deliberations of participants in a relatively easy manner.

Possible Weaknesses of Stimulated Recall

The possible weaknesses of SR include a wide range of issues, from participants’ anxiety towards recording devices in the field, to questions about the validity of the data, to the difficult task of data analysis.
Any observational fieldwork runs the risk of intruding into the naturally occurring phenomenon of study (Lincoln & Guba, 1985). In the case of videotaping or audiotaping, the researcher must consider the possible anxiety of the participants related to being captured on tape. Participant anxiety may run the scope from slight discomfort, to extreme anxiety at their actions being recorded. Also, just knowing that their actions are being observed, may knowingly or unknowingly, cause participants to change their actions; furthermore, knowing that their performances are being documented in a more "permanent" way on videotape, may cause even more changes in the actions/thoughts of the participants. They may, for example, try to impress or want to appear a certain way for the cameras and/or for the researcher. Another possibility is that the participant may choose to edit what is being reported (Ericsson & Simon, 1980). One way to try to alleviate some of the participants' anxiety is for the researcher to allow enough time for the acclimatization to the camera(s) or tape recorder (Kagen, Krathwohl & Miller, 1963).

Another aspect of the SR method that is open to criticism is the reliance on the recall of the participants. These criticisms include questioning both the participants' memory and accuracy of their thinking. Yinger (1986) questioned the validity of SR that depended on the ability of respondents to be able to recall specific thinking they had at the time of the actions. He suggested that the verbalizations might not be recall of their thinking at all, but reflections from the vantage point of hindsight, causing them to have a "new view" of their cognitions and the "luxury of meta-analysis and reflection" (p. 271).

In light of Yinger's work, Lyle (2003) has promoted the idea of doing a study that would compare the recall of cognitions immediately following the teaching, and delayed reflections of the same participants. While no doubt a labour-intensive study, results from such a study could prove fascinating. It would be interesting to compare the data to see if and how the "recall" data gets
modified, or reworked to become “reflections” on a more abstract level. Perhaps the recalled deliberations would just naturally become more abstract with time. Perhaps with even more time, they would become ‘generalizations’, and eventually these generalizations would be replaced with ‘impressions.’ Alternatively, maybe the act of verbalizing their thinking actually changes the features of the reflections. Perhaps the verbalizations and the reflections interact in ways that change both of them. For example, maybe the reflections after the fact would be more detail-oriented, in keeping with the first re-telling, which could be done either consciously or unconsciously by the participant. More work in this area could prove valuable, perhaps affording a “new view”, (using Yinger’s term) from which to develop our understanding of teachers as “reflective practitioners” (Schon, 1983). Stimulated Recall methods appear to have the potential for being a central method for these types of studies.

In response to the concerns about the dependency of SR on participants’ cognitions, Gass (2001) has completed a thorough review of the research, and has concluded that the SR technique has a long history in psychological research and is accepted as a valid means of accessing concurrent human reasoning for the purpose of understanding reasoning and informational processing (p. 262).

In early studies that depended on the ability of participants to be introspective on their cognitions, Shulman (1970) responded with the following:

The evil reputation which introspection has received is more a function of its misuse…than it is a function of some intrinsic insufficiency of the approach itself (p. 386).
Additionally, numerous researchers (Lyle, 2003; Bloom 1953; Gass, 2001) recommend completing the follow-up as quickly as possible afterwards, to reduce the time for loss of accuracy, and minimize the time for reflection/reframing.

One last difficulty associated with the SR methodology that will be discussed is the arduous task of analyzing and interpreting the thick data (Anderson & Burns, 1987; Goetz & Lecompte, 1984). As in all human sciences research, the selecting and coding of the data can be very difficult, especially data gathered from videotapes, due to the sheer density and complexity (Pirie, 1996). Indeed, researchers using SR often report that it is a highly time-consuming and laborious method (Welsh & Dickson, 2005).

While there are numerous texts available on the analysis and interpretation of qualitative data, the majority of the surveyed SR research cited used “grounded theory” to interpret the highly complex data (Glaser and Strauss 1967; Strauss & Corbin, 1998). Grounded theory involves continuous comparison of different data sources and emerging themes to strive to build a model or theory that coherently represents the data. One variation worth noting is the premise that describing and analyzing observations should be done simultaneously, instead of separately in the sequence. Miles and Huberman, state, “To insist on a sharp polarity between description and analysis is misleading; descriptive analysis is necessarily analytic” (1984, p. 20). A similar approach is espoused by Taylor and Bodan, (1984) who suggest combining the process of discovery and coding and discarding theoretical aspects when disconfirming data is found. Pirie (1996) discusses her experience analyzing data from videotaping in a similar way, and adds her view that having videotaped data for other researchers to view provides her with new perspectives and analyses.
New video analysis software (i.e. V-prism) shows some promise in assisting with the management of the data. Pirie (1996) suggests that computer software can be highly beneficial for cross-referencing data. However, as Roschelle (1992) points out, researchers still must take the time to familiarize themselves with the software. Seemingly, the use of new computer software shows major potential for future video SR studies.

Whichever method for analyzing and interpreting SR data is chosen by the researcher, the credibility of the study will largely be decided on the integrity of the data. Research that attempts to document individual accounts of practice focusing on concrete examples, while ensuring the “primacy of context” (Flyvbjerg, 2004, p. 136) would support the use of case study inquiry.

The Case Study

In his book, Making Social Science Matter, Flyvbjerg (2004) argues for social science research that seeks to contribute “description and explanation,” rather than “predictive theories and universals” which “cannot be found in the study of human affairs” (p. 73). Further, he suggests that Social Science research can offer “concrete, content dependent knowledge and the case study is especially well-suited to produce this knowledge” (Flyvbjerg, 2004, p. 72).

Flyvbjerg (2004) further posits “formal generalizing is overvalued as a source of scientific development, whereas the power of the good example is undervalued” (p. 77). He goes on to explain that part of the power of the good example is that the “minutiae, practices and concrete cases which lie at the heart of … research are seen in their proper contexts” (p. 136). As such, one advantage of a case study is that it can “close in” on real life situations and “test views directly in relation to phenomenon as they unfold in practice” (Flyvbjerg, 2004, p. 82).
Flyvbjerg (2004) challenges the claim that case studies are limited to only generating and testing hypothesis. He states that one “can often generalize on the basis of a single case and the case study may be central to scientific development via generalization as supplement or alternative to other methods” (p. 77). The close-up view of the good example provides both the small, local context, which gives phenomena their immediate meaning and the larger, international and global context in which phenomena can be appreciated for their general and conceptual significance (Flyvbjerg, p. 136).

He also addresses two perceived weaknesses of the case study approach, namely, bias towards verification and difficulty with summarizing data. On the first, Flyvbjerg (2004) argues that case study contains no greater bias toward verification of the researcher’s preconceived notions than other methods of inquiry. On the contrary, experience indicates that the case study contains a greater bias towards falsification than towards verification (p. 84).

On the second point he readily admits the difficulties associated with summarizing case studies, but suggests these are due to the properties of the realities they are studying, rather than with the case study as a research method. As such, he recommends that case studies be read in their entirety.

In consideration of these weaknesses that Flyvbjerg discusses, this study attempts to provide the reader with a fuller account by focusing on longer teaching episodes of each teacher, in addition to relevant, shorter quotes. In view of his arguments for the case study method, the current research attempts to provide a “close-up,” “good example” of teachers’ deliberative processes, for the purpose of “describing and understanding” this human activity.
Some Ethical Considerations

Research guidelines have been determined by various governing bodies, (i.e. AERA) which include set ‘criteria’, such as gaining informed consent, and assuring confidentiality and anonymity of participants. However, post-modern and critical theory approaches have caused the questioning of even these standardized requirements.

While researchers continue to attempt to guard the confidentiality and anonymity of participants, sometimes their attempts prove futile (Homan, 2002; Pirie, 1996). Homan discusses the fact that, in spite of the best efforts, others have deduced the identity of participants in some studies, typically from certain information or scenarios being reported in these studies. As such, I pointed out to the participants what methods I would utilize in an effort to protect their confidentiality, (i.e. locked files, use of pseudonyms, etc) but due to limitations, there would be a possibility that they could be identified once the study is disseminated.

As well, the issue of informed consent is not as straightforward as it may seem. This principle is to ensure that all participants are fully aware of the intent of the study, all aspects of the study, and possible consequences of the study, before being asked to give their consent to participate. While outlining all of these may be feasible in quantitative, experimental studies in a lab setting, it becomes more convoluted in qualitative naturalistic studies that are more open-ended (Homan, 2002). The issue is that the researcher cannot outline all aspects and all possible consequences of the study at the outset, because she/he may not know what they could be. As the research study unfolds, so too, do the possible consequences for the participants. Accordingly, for the purposes of this study, “informed consent” was conceived of as “informing consent,” with an ongoing obligation of keeping the participants informed, and, if they had so chosen, accepting their withdrawal from the study at any time, as the study unfolded.
In addition to questioning these more standard research requirements, critical theories have further problematized the relationship of the researcher and the participant (Alcoff, 1991; Pillow, 2003). Power issues, often due to positionalities, can directly or indirectly influence the voice of the participants (Denzin & Lincoln, 1994; Briscoe, 2005). 'Inside' and 'outside' positions of researchers present differing perspectives, and differing limitations that also need to be addressed (McNamee & Bridges, 2002). As such, the notion of reflexivity of the researcher is another important aspect of qualitative research (Denzin & Lincoln, 1994) and I was cognizant of this throughout the analysis of this study.

While historical ethnography started the discussion on “what kinds of representations were acceptable and authoritative for their ordinary purposes,” (Van Maanen, 1988, p. xi) issues of representation have been brought to the forefront by numerous writers (Geertz, 1983; Lecompte & Goetz, 1982). For example, the problem of “speaking for others” (Alcoff, 1991) remains a genuine unease and ongoing tension for all researchers. I attempted to address this complicated issue by using the participants’ words as much as possible, by scrutinizing the data to ensure that chosen themes had emanated from the words of the participants, and through member checks.

Integrity of Qualitative Data

While the debate between qualitative vs. quantitative research paradigm wars are beyond the scope of this paper, the issues of ‘validity’ and ‘reliability’ of gathered data in naturalistic research will be briefly considered.

Lincoln and Guba’s Naturalistic Inquiry (1985) outlines both the conceptualization and techniques for qualitative fieldwork. They assert that the soundness of qualitative data is largely obtainable by the use of a transparent and valid member’s check. They emphasize the need for a comprehensive paper trail that demonstrates that the findings and the researchers’ interpretations
are credible to those who were involved. They also note the importance of using other available data for the purpose of triangulation.

They and others also argue that reliability in qualitative research is very different from quantitative research, because there is not a goal of having results that are reliably generalized to associative or causal relationship between variables (Marshall & Rossman, 1998). Rather, in qualitative research, reliability means linking the evidence to the conceptual framework. This means having the researcher ask questions such as; are the theories/models credible? Do they fit the data? Are there any inconsistencies between the data and the theories? Lincoln and Guba (1985) suggest that ‘validity’ and ‘reliability’ should be reserved for the quantitative research, while “integrity of the data” is the goal in naturalistic research.

Erickson (1986) outlined five potential deficiencies that may compromise the ‘integrity of the data,’ of which qualitative researchers should be made aware: inadequate amount of evidence; inadequate variety of kinds of evidence; faulty interpretive status of evidence; inadequate disconfirming evidence; and inadequate discrepant case analysis. His last point is especially salient in reference to video-mediated recall, raising numerous questions for the researcher. For example, how much videotape is “enough data” of the phenomenon to be studied? What type of unit will be considered for the recall procedure? Will there be set time intervals, or will the researcher choose to use the notion of “critical incidents,” (Tripp, 1993) or “critical events” (Woods, 1993) approach? Further, who defines the actual time intervals, (i.e. stop the tape every 5 minutes, 3 minutes or 1 minute?) or a critical event? Some researchers suggest that, if the participants define the unit of study, they become more collaborative in the research process and may feel empowered (Woods, 1993). On the other hand, should the researcher make these decisions to ensure critical events are
Another consideration is how much data is reasonable to view with the participants, during think-aloud sessions (Erickson, 1986)?

While Erickson was speaking to qualitative research in general, Gass (2001) has compiled the following list of safeguards specifically for SR methods: (a) reducing the amount of time between the original event and the interview, (b) triangulating data reported in the interview with other data sources, and (c) using informal interview techniques that reduce self-consciousness and self-editing on the part of the participant and allow for clarification and elaboration. While we have already encountered her first two points, the issue of the follow up interviews is worth further exploring, as she is not alone in placing prime importance on them (Lyle, 2003; Pirie, 1996).

In this study, follow-up interviews typically occurred over at least two sessions, with the first focusing on the think-aloud of the participants, and subsequent interview session focused more on member check for the purposes of analysis and interpretation. While some studies used formal interview questions, more commonly, informal interviews were utilized. Lyle (2003), specifically encourages the researcher:

...to probe...to establish a reason comment, if the teacher had only given a descriptive one ...what are the reasons and the factors involved (p. 878)?

Clearly, for Gass and Lyle the importance of the follow-up interview is critical. However, it also raises an important predicament for the researcher. One criticism of qualitative research is that the researcher’s ideology leads the researcher to find whatever proof necessary to validate theories already arrived at, prior to the study. McNamee and Bridges (2002) discuss this notion of “ventriloquy” whereby “researchers use participants’ words as data to fit their pre-conceived models of the phenomenon under study” (p. 6). Given these real concerns, how does the researcher decide on the “correct” wording, i.e., that which will stimulate the participant to recall her/his
cognitions, without contaminating the data through such researcher bias? In what specific ways could a researcher allow for 'clarification and elaboration on the part of the participant,' as Gass (2001) has suggested? While there is no easy response to these questions, it is clear that the researcher spend time carefully considering the wording and technique in any follow-up interviews, knowing this data will need to stand up to close scrutiny.

The other aspect worthy of note in Gass’ third safeguard, is to ‘reduce self-consciousness and self-editing’ by the participant. While it is unclear how one ‘reduces another’s self-consciousness,’ the key point here appears to be to develop a good rapport with the participants. This is a notion fully supported by many researchers (Pendlebury & Enslin, 2002; Ely, 1991; Flinders, 1992).

Undoubtedly, post-modern and critical theories have caused significant changes in the conceptions of research ethics, which are reflected in language of the qualitative literature. Perhaps the most obvious has been the move from studying “subjects” which implies passive study, to “participants” as an indicator of a more active role of the participants of the study (McNamee & Bridges, 2002). The one-time checklist of sanctioned ethical guidelines has been replaced with an ongoing dialogue between the participant and researcher that requires care (Noddings, 1988) reciprocity (Flinders, 1992; Zigo, 2001) and collaboration (Zigo, 2001).

Underpinning all of these aims is the element of trust, and is a central theme for many qualitative researchers (Pendlebury & Enslin, 2002; Ely, 1991; Flinders, 1992; Ayers & Schubert, 1992). These writers argue that trust is the key factor that enables participants to feel comfortable to elaborate and clarify, or alternatively, reject or refuting any term/ notion/concept/construct that may be identified by the researcher. Participants are trusted as co-investigators, and the researcher and the participant collaborate to research data and make sense of the data (Pendlebury & Enslin, 2002).
As such, the goal is to attempt to have the participants trust the researcher enough to add their own descriptions and revelations, even if they appear the exact opposite of the researcher’s propositions.

Expanding on this notion of trust, Lincoln and Guba (1985) dedicate a whole chapter to “Establishing Trustworthiness.” They propose that researchers need to work to establish trustworthiness of their work. They conceptualize the task in terms of questions such as:

How can an inquirer persuade his or her audiences (including self) that the findings of the inquiry are worth paying attention to? Worth taking account of? What arguments can be mounted, what criteria involved, questions asked, that would be persuasive on this issue (p. 290)?

Such important questions were considered by this researcher, and will be reported during the analysis and interpretation chapters.

Other writers have written about the ethics of research more broadly, suggesting that the ethics of the research is actually dependent on the virtues of the researcher (Pring, 2002). Stated differently, the integrity of the data is dependent on the integrity of the researcher to ensure there is an ongoing attempt to do all that is possible to report on and make sense of the phenomenon that is under study. Winch (2001) has proposed that all ethical educational research needs to have all of the following aims to: 1) produce knowledge about education 2) help formulate educational policy 3) improve workings of education, and 4) contribute to radical changes in society.

To this point in this chapter, I have defined and described various SR protocols, including simultaneous, recent and delayed. A survey of the research literature demonstrates use of SR methods in wide-ranging field of studies, including psychology, counselling, medicine, nursing, linguistics, organizational behaviour and education. As there are volumes of important writings on the ethics of present day educational research, this past segment has served to raise only a few of
the ethical considerations regarding this methodology. While the validity of the recall of the participants, and the complexity of the analysis of the data may pose some problems, it is proposed that such difficulties can be overcome through the researcher’s vigilance in ensuring ongoing members’ checks and paying careful attention to the integrity of the data. Overall, researchers using this method reported that valuable data was accessed that would otherwise not have been accessible to the researchers.

The Compelling Complexity of the Data

One recurring theme in qualitative research is the difficulty in the analysis, due to the complexity of the data (Ely, 1991; Anderson & Burns, 1987; Emerson, 2001). In fact, if a portrait is worth a thousand words, imagine what a moving, video recording of a dynamic classroom is worth! Of course, focusing on one variable would prove much easier, and creating simulations in laboratory settings would prove neater, however, the results would be oversimplified, and oversimplification does not lend itself to meaning.

Alternatively, if the goal is to have accurate, running, descriptive data of genuine classrooms for analyses, then video-mediated recall appears to be a probable choice of method. There is no doubt that the denseness of the data could be daunting for the researcher, unless she/he appreciates that contextual research must be so, because of the need to observe naturally occurring phenomenon in genuine settings, to better understand the dynamic nature of teacher’s work. The messiness of SR is necessary, then, to try to make meaning of the complexity of teaching.

Generally speaking, teachers are wary of research that is not conducted in classroom contexts (Huberman, 1990). In fact, even if research is completed in classroom contexts, teachers are often still wary (Cuban, 1988). Further, Mitchell and Keodinger offer that
Previous efforts at curricular and instructional reform have fallen short partly because reformers neglected to consider the decision-making processes of teachers (2000, p. 48).

One of the greatest strengths of the SR approach is the undeniably contextualized approach. Insights gained from tracing and analyzing teachers' cognitions as they teach could speak to other teachers. Real teachers' voices, processing real teaching incidents, in real teaching situations could be appealing and enticing to other teachers. Considering it from this viewpoint, the perceived weakness of the complexity of the data from naturalistic settings may actually become a veritable strength; in fact, if the data and results are appealing and enticing to teachers, using SR as a method to study the complexity of teaching could be considered compelling.

The Current Study Design

I videotaped three elementary school teachers teaching three separate lessons, focusing on teaching student understanding in various curricular areas. All of the teachers are colleagues at the small, urban school in which I teach, which is located in the Lower Mainland of British Columbia. The three participants were all experienced teachers, ranging from 8-16 years of teaching experience.

All three teachers (as well as myself) had already volunteered to participate in a year long literacy project sponsored by the School District, which included attending five workshops, (some during school time, some after school). These workshops involved observing and implementing various teaching/learning strategies to improve student understanding across the curriculum. (These included such strategies as thematic concept mapping, cloze passages for inferencing and sort and predict activities.) Before the second workshop, I approached each of the three teachers
individually and asked if they would be willing to participate in this study. I suggested that the study might be able to link with the project, in that I could videotape lessons of them teaching the strategies, and the think-aloud sessions could be opportunities to reflect on those lessons.

The Participants

Heather is an outgoing woman in her mid-thirties with eleven years of teaching experience in public schools and private English as a Second Language (ESL) schools. She has recently obtained an advanced diploma in Education. She said she really enjoys providing “hands-on” and “project based learning” experiences for her students.

Kevin is soft-spoken man of Japanese descent in his early forties with sixteen years of elementary teaching experience in the public schools. In the past two years, Kevin has assumed a Vice-Principal role, which requires him to teach half time, and be an administrator for the school for the other half. His undergrad area of study included Science and is presently pursuing his Master of Educational Administration degree.

Donna is a woman in her early-thirties with eight years of elementary teaching experience in the public school system. She said her university coursework included Music, but that mostly she chose “general education courses” to prepare her to teach elementary school. She is presently taking a Physical Education Course at university in the evenings.

Generating Data

I videotaped each participant teaching three one-hour lessons within various curricular areas, over a period of eight weeks. Three of the lessons were in the area of Science, two were in Social Studies, and four were in Language Arts. It should be noted that these curricular areas were mostly a matter of logistical scheduling, as in when I was available to videotape their lessons.
Following each of the taped lessons, each participant viewed their lesson on videotape, which served as a stimulated recall to complete the think-aloud sessions. I used a delayed recall design, and completed the think-aloud sessions as quickly as possible afterwards, to reduce the time for loss of memory, and minimize the time for reflection/reframing (Lyle, 2003; Gass, 2001; Bloom 1953). However, one of the nine think-aloud sessions did not take place for several days, due to conflicting schedules.

While in some stimulated recall studies, the researcher directs the participants during the think-aloud sessions to verbalize or identify only one specific “cognition” (i.e. anger), in this study I asked the participants to verbalize an open-ended account of their experience (i.e. verbalize all of your thinking at the time) (Lyle, 2003).

I left the decision as to when and how often to stop the videotape to each participant; consequently, the think-alouds had some distinct differences between them. Heather kept the tape running almost the entire time, while she did a virtual “play-by-play” of what was occurring and her rationale behind her actions. Kevin watched the videotape for minutes at a time (anywhere between 1 and 6 minutes) without saying anything and then stopped the tape and summarized what he had observed and reflected on his actions at the time. Donna watched quietly and often only gave minimal description of what was occurring, but would offer her understanding of her thinking, when prompted by the researcher, to “explain your thinking at the time.” At times, I also prompted the participants with questions, such as, “Why did you do that?” or, “What were your reasons?” As referred to earlier, these types of prompts were recommended by Lyle (2003).

I also had a final follow-up interview with each of the participants within two weeks of completion of the last think-aloud session. I asked some questions regarding their background, (i.e.
years of teaching, areas of academic study) as well as for feedback on the videotaping and think-aloud process. During these follow-up interviews I provided them with an opportunity to add any comments, insights or reflections about any aspect of their participation in this study.

All ethical guidelines were followed, including obtaining consent forms from each teacher participant, as well as a parental permission letter from each student in the participants' classrooms. Those students who did not receive parental consent to be videotaped still participated in all of the lessons, but were not videotaped.

Each participant volunteered a total of approximately eight hours over two and one half months, approximately half of which involved video-taping during instructional time and half was the stimulated–recall think-alouds and follow-up interview sessions, during non-instructional time. All educators', students', and the school's names are pseudonyms to preserve anonymity. All data will be securely stored for five years and then will be destroyed. For triangulation purposes, each participant was given the opportunity to view the data and respond to the initial analysis.

Data Analysis and Interpretive Process

The data for this study included videotapes of three, hour-long lessons of each of the three participants and the accompanying audio recordings of their think-alouds as they watched each lesson. I completed a follow-up interview with each participant, which I audiotaped and transcribed. I also kept field notes, which included my observations and notes throughout the study.

I compiled the data from all of these sources into three cases, one on each participant. Prior to starting my analysis, I anticipated that I would first complete an examination of the evidence on a case–by-case basis and then move on to a broader, cross-case analysis. However, as the process
unfolded, I found myself moving back and forth between individual cases and cross-case analysis. For explanation purposes, I have divided the analysis and interpretive processes into seven phases. Following a description of each of these, I will outline some limitations of the study.

Phase one: Classification of Participants’ Utterances

I read and reread the data of each participant and attempted to identify the main idea(s) of their utterances. Three examples are given below. One utterance was:

*I find a lot of them if they don’t catch it the first time, it’s good to repeat it, so that by rewording things, if they don’t understand the way I said it one time, I reword it and repeat it another time so that at least it fills in those kids as to what to do.*

I summarized this utterance under ‘clarifying instructions.’ Another example:

*I’m back at A., helping her out. She’s doing the writing, but just kind of talk to her because usually when she says the words, then she can write something down. You have to make her say it to you.*

I classified this utterance as: ‘individual student language support.’ A third utterance of one of the participants was:

*I think I was starting to feel, I was thinking this is kind of dragging a bit. And I know there were some students that were there that were with me, but I started thinking that some of them weren’t as focused, and were starting to lose it, and I was feeling that, ‘Okay, let’s try to get through this’ and let’s try to get these words on the board before I totally lose some of them.*

This utterance was identified as ‘lesson pacing based on student engagement’.
Phase two: Identification of Initial Emerging Themes

Once I completed this time-consuming task of classifying all of the data in this way, I searched for recurring themes, language, and ideas (Marshall & Rossman, 1998). As I compiled related utterances, some themes emerged, and I began to classify the utterances under these tentative themes. A partial list of my initial sixteen categories of utterances is provided for the reader on the next two pages.
Instruction

- clarifying instructions
- step-by-step instruction
- repeat instructions
- summarize main points
- emphasize key words
- determining student background knowledge
- clarify expectations for assignments
- setting criteria with students
- introducing new concept
- using visuals
- questioning
- questioning to clarify understanding

Lesson Momentum

- lesson pacing based on student attentiveness
- fluidity of a lesson
- checking in with students
- reading body language
- use cues from students
- gauge student attentiveness
- quick pace to maintain interest
- monitor student engagement
- prompts to keep class momentum
- respond to momentum through pacing
- pacing dependent on students and dynamics
- too much time on concept, lose students
- too much teacher talk, lose students

Student Responses

- thinking behind answers
- no right or wrong answers
- taking risks with answers
- valuing students' answers
- clarifying responses
- listen for misunderstandings
- who to call on to respond
- equal participation
- expanding responses
- lack of responses
- focus on thinking process, not answer

Individual Student Accommodations

- individual student language support
- individual student behavioural support
- individual student adaptations
- diversity of needs
- student need concurrent help
- difficulty simultaneously maintaining lesson momentum

Learning Strategies

- introduction involves setting purpose
- modeling strategy
- discuss benefits
- naturally engaging because help make meaning
- critical thinking
- enhance learning
- produce higher level of work
- drawback: time consuming

Judgement

- practical sense
- gut feeling
- intuition
- discern value of for students
- no script for instruction
- dependency on judgement
- on the fly decisions
- need for flexibility
- reflection on lesson
- contextual based

Cooperative Group work

- importance of talk time
- groupwork as beneficial
- inspire each other
- assist each other
- teacher can bear student explanations
- value of hearing peers' ideas
- enjoyment of working together

Student Connections

- location of real learning
- not regurgitating information
- to self, new ideas, to world
- meaningful connections
- deeper levels of connections
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<th>Teaching Experience</th>
<th>Context of Teaching</th>
<th>Theory and Practice</th>
<th>Class Management</th>
<th>Time</th>
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<td>• complexity</td>
<td>• theories as separate from practice</td>
<td>• proximity to teacher</td>
<td>• curricular time constraints</td>
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<td>• hands on experience</td>
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<td>• response to calling out answers</td>
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<td>• developmental theory</td>
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<td>• class dynamics and</td>
<td>perceived as applicable</td>
<td>• count down to name on paper</td>
<td>• curriculum coverage vs. mastery</td>
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Phase three: Focusing on the Research Questions

Working with these themes over the period of a number of months, I returned to my two main research questions to help focus my analysis. As I did this, I sorted these themes under the research question for which I believed they could provide evidence. I listed the themes under my two research questions in this way:

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<th>What considerations do participants take into account?</th>
<th>What are participants' understandings of their deliberative processes?</th>
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<td>Instruction</td>
<td>Judgements</td>
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<td>Beginning Teaching</td>
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<td>Student Responses</td>
<td>Teaching Experience</td>
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<td>Individual Student Accommodations</td>
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<td>Learning Strategies</td>
<td>Theory and Practice</td>
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<td>Student Connections</td>
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Phase Four: Choosing Repetitive and/or Significant Themes

Once I had developed these two lists, I set the second list aside, and concentrated on the first. In an effort to prioritize the themes in my first list, I returned to the data to determine which themes, if any, were mentioned by every participant during a think-
aloud session. Much to my surprise, nine of the eleven were mentioned by all three of the participants at some time, in at least one think-aloud session. (The only themes not mentioned by all three were classroom management (mentioned by two) and textbooks (mentioned by one).

I thought I could restrict my analysis by determining the most frequently mentioned themes. However, this quickly proved inadequate, as I realized that frequency of an utterance could entail the mere mention of a phrase, (i.e. ‘not enough time’, ‘time ran out’, ‘I was conscious of the time’) versus a two-page explanation (i.e. of an insight gleaned about individual student accommodations). In these examples, “time” may have been mentioned three times, and “student accommodations” may have only been mentioned once, with the difference in number missing the importance of the issue of student accommodations taking up to two pages of transcriptions of the thoughts of a participant. As such, I returned to the data, but this time I looked for evidence of not just how many times a phrase was repeated, but also with criteria such as the length of description or explanation, and/or the variety of issues to which participants related each theme.

Without question, one of the most significant themes (in fact mentioned by each participant in every stimulated recall session at least once) was the notion of “lesson momentum.” This was clearly a major consideration of all of the teachers in their practice and was worthy of closer examination. Further, as I reviewed some of the other themes from my list under “considerations”, new links between “momentum”, the topic of “instruction” and “time” became obvious. For example, the participants’ utterances indicated how their step-by-step “instruction” was closely tied to lesson “momentum,” and

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how the issue of "time" was a key factor in lesson "momentum." Some of these new connections caused me to subsume some of my tentative themes under more general ones, reducing the number of general themes under this category four. I was uncomfortable with letting go of some of my initial tentative themes, concerned that I may be discarding important first impressions of the data, but alleviated my concerns by reminding myself that reducing the data is a necessary aspect of the work. At this point, I arrived at a list of the significant themes from the data.

**Significant Themes from Data**

Lesson Momentum

Time Constraints

Individual Student Accommodations

Valuing Students

Student Connections

Instructional (Pacing) Decisions

**Phase Five: Choosing Teaching Episodes**

While looking across cases had helped to identify some significant themes, at this point there was a need to return to a case-by-case analysis, to consider these themes more in-depth. I went back to the transcripts to look for exemplary quotes, from each of the participants, starting with "lesson momentum." As I did this, I realized that listing quotes out of context under these various thematic categories did not do justice to the dynamic context captured in the videotaped lessons, nor the continuous and
simultaneous deliberations of the think-alouds. At this point, I decided to provide the reader with a whole, intact section of a teaching “episode” of each participant, and went back to the data to choose teaching episodes that highlighted the six significant themes.

Once I chose three teaching episodes, (including one that highlighted two of the four themes) I reviewed all of the data to locate related quotes from the other two participants. I looked for commonalities between the participants, as well as differences between participant’s experiences and explanations. For example, while all of the participants used the phrase, “student connections” in their think-alouds, they meant a variety of things to each of them, including, connections “between concepts”, “in their personal life” and “with the text.” Juxtaposing the participants’ multiple meanings of the same common term helped to broaden my understanding of the subject.

Phase Six: Interpreting the Data through a Phronesis Framework

Once I had built a tentative outline incorporating both the longer teaching episodes, as well as the shorter examples to describe the teachers’ deliberations about their teaching, I turned to the literature on phronesis to assist in the elucidation and explanation of the data. This lens provided a different ‘level’ of interpretation and once again, I found some themes becoming subsumed under other ones. This time, however, instead of being concerned about possibly ignoring some data, as I had done earlier in the process, I became excited about the way in which the theoretical framework illuminated the new relations between the themes and provided some new key insights and understandings.
For example, through a phronesis framework, ‘instructional pacing’ focuses on the teachers’ intentions, and the data showed the teachers’ intentions were concerned with simultaneously being ‘responsive’ and ‘purposive’, highlighting the moral aspect of teachers’ deliberations. Further, viewing teachers’ deliberations as including competing intentions, could profoundly change the perception about the overt acts of teaching, as well as the tacit deliberating behind those actions.

While this level of extrapolating from the evidence provided new understandings, I was committed to having the participants’ words explaining their experiences be central to the study. I continued the analysis and interpretive process by linking the evidence and the conceptual framework in this way, focusing on the accuracy of what the teachers said, and linking them with new understandings, being mindful of an honest and reliable account of the data.

Next I turned my attention to my second list of themes from the data, concerned with ‘How do they understand their implicit deliberative processes? The four themes under this question included Judgement, New to Teaching, Teaching Experience, Context of Teaching, and Theory and Practice.

While I was struck at the number of commonalities of the data under the types of “considerations” of the three participants, I was astounded at the similarities of perceptions and understandings regarding their deliberative processes. For example, they all independently reminisced about their early days in teaching, the inadequacy of simply applying theories they had learned to the unpredictable classroom setting, their understanding about the role of experience, and their reliance on a capacity to act. While they shared similar stories in this regard, they all used various terms to describe this
capacity (i.e. “practical sense”, “intuition” and “gut feeling”). Moreover, their common understandings about their deliberations coincided so strongly with the literature on phronesis, that it made this part of the interpretation process not only fitting, but also gripping.

At first I was pleased with the gripping nature of the ease with which the data fit with the theoretical framework; however, this caused me to question that if it coincided so strongly had I actually unknowingly participated in “ventriloquy” (McNamee & Bridges (2002)? I returned to all of the participants’ utterances under these themes once again. After carefully reviewing them, I was reassured that the themes were warranted from the data and the phronetic interpretation was well reasoned and defensible.

Phase Seven: Reporting the Study

In writing this study report, I concerned myself with writing an accurate, transparent, coherent and trustworthy account (Lincoln & Guba, 1985).

Undoubtedly, the best approach to ensure accuracy when reporting on such a study is to use the words of the participants themselves. I have made every effort in this regard throughout the study. That being said, having too many examples of thematic utterances from which to choose, forces a researcher to make difficult decisions as to what data to include, and which data to leave out.

In order to be transparent, I have provided descriptions of the data evidence and tried to be as explicit as possible in explaining the analysis and interpretive processes. I have attempted to provide a coherent account by connecting the evidence and interpretation of that data. I endeavoured to provide sufficient data to support the
interpretation, but not so much as to cause the reader to lose interest. Finally, all of these
efforts were to ensure this study is a trustworthy account of the phenomena it represents.

Some Possible Limitations of the Study

As just stated, I attempted to address the issue of the “problem of speaking for
others” (Alcoff, 1991) by using participants’ quotes as much as possible. While their
narratives allowed for invaluable “thick descriptions” (Geertz, 1973, p. 43) they were
also subject to researcher’s effects. This was also true of their teaching lessons, which
could have been affected by the camera and/or my presence while filming. I felt
somewhat assured when one of the participants offered in her follow-up interview that
once she got over the sound of her voice on tape, she “didn’t feel judged because you
were so supportive.”

While I made every attempt to derive the categories and themes inductively from
the data itself, because the selection and interpretation of the findings were ultimately left
to my subjective judgments, this could be considered a limitation of the study.

Further, my positionality in this study, as both a researcher and as a practicing
teacher must be taken into consideration. My belief that teaching is a highly demanding
job that is generally undervalued could have prejudiced my interpretation of the data. At
the same time, conducting research in the school in which I teach, with participants with
whom I am colleagues on a daily basis, provided a vantage point that allowed me to gain
access to usually tacit thoughts, in a naturalistic setting, with little, if any, power
imbalance.
4. What Considerations Do Teachers Take into Account when Teaching: 
Three Teaching Episodes

Introduction to the Teaching Episodes

In this chapter, three teaching episodes will be provided, one from each of the participants. The transcripts of these teaching episodes illustrate “what” actions the teachers were engaged in the classroom. The accompanying think-alouds provide glimpses into the reasons “why” they acted as they did, as well as some of the considerations that they took into account when deliberating on their next actions. It is proposed that the following teaching episodes provide the reader with opportunities to get a sense of the complexity of the considerations taken into account, as well as the unrelenting pace and urgency in the dynamic classroom setting.

The three teaching episodes that follow are a compilation of the videotaped lessons (indicated in **bold font**), the audio of the think-alouds transcriptions (indicated in *italics*), and field notes (in regular font). One episode for each participant has been chosen to represent some of the recurring themes of the data. Directly after each of the teaching episode transcript, a few key understandings of the participants from the chosen episode will be highlighted, and related comments from the think-alouds of other lessons and other participants will be provided. Immediately following the three teaching episodes, we will turn our attention to Aristotle’s notion of phronesis to interpret this data; and then to extend the conversation on the role of experience, we will briefly consider the work of Dreyfus and Dreyfus.
As I wait for the class to return from the gymnasium from their PE lesson, I count the twenty-eight desks arranged into five pods. The teacher's desk is at the front, with numerous piles of papers neatly stacked. To the right of the teachers' desk is an area carpet, with a chair in one corner. There are four older computers side-by side down one wall.

As the students start to file into the classroom, the third student yells to me that one of their classmates ‘threw up” in gym class and that her teacher told her to tell me she will be back in a few moments. The students file in, many of them red faced and sweating, and proceed directly to hang up their gym bags into the cloakroom. A majority of them line up at the water fountain in the classroom behind the teachers’ desk, while the others return to their desks. After a few minutes, the teacher enters the room, apologizes to me, asks if the student told me what had happened, and explains that she had to take the ill student to the office and had to call for the custodian.

After a few minutes more, all the students were at their seats, and the teacher, was at the front of the room, instructing them to take out their Social Studies duo tangs, while she handed out big book paper that was divided into four sections, each one further divided into a blank area on one side and lines on the other. She wrote the following title on the board “My Early Explorer……………………”. She instructed them to put their name on their paper and to copy down this title on their page and fill in the blank with the
name of their individual explorer, which, she explained later, the students had been independently studying for the past few weeks.

Now, remember when you were researching your explorer, one of the things you were researching was their greatest achievement, or achievements, or the things that they were best remembered for, like, the thing, the event that made them most famous. I want you to close your eyes for a moment and try to imagine what that thing, or event was. (Pause as the students closed their eyes; teacher walking around the room) What is happening? I want you to try to make an image of that event or thing, the details, like the setting – was it on land, on a river, on an ocean, was it in the winter or the summer? Try to remember what people would have been there, like his crew, or First Nations people or a King. Think about the type of transportation, the type of boats, for example. Now open your eyes. In box 1 on your papers, I would like you to sketch a snapshot- a picture of the image you have in your mind, with as many details as you can. After two minutes, you will be asked to share with the partner across from you.

[students start to draw on papers and the teacher circulates around the room, looking over students’ shoulders to see their work ]

This is not a matter of how much they can get done in two minutes of drawing. It’s a matter of thinking, like, being on track with your thinking.

Okay, go ahead and share your picture with the partner across from you.

Just because the person has one quick sketch drawn on their paper does not mean they are lacking in information. If they are on track with their thinking, they may only be able to express that with one sketch, but the opportunity to
share it verbally with their partner, allows them to fill in all those blanks. And with more time given, they can write it out.

Teacher is walking around pods of desks.

This match is so great, Heather and Maria. What a great pair. It's fun to see them find each other, in friendship.

Don't forget to tell the buddy across from you what is important in your picture.

So, obviously I listened a little bit, sometimes their talking goes off to other things like sports. Just keeping them on track.

Now your job is to write a few sentences on the lines beside your drawing explaining your picture. Don't just tell about what you drew, but also tell about why you chose this scene, why is it important about your explorer?

How is this important? This is the key essence of this lesson. How is this important?

Okay, please stop and listen. (hesitates, looks around room, waits for students to give her their attention) We are going to do one more scene. In box two, I want you to illustrate one scene that shows a hardship or, or, obstacle, or a problem that your Explorer had on his journey. For example, it could have been a conflict with other people, or his crew got an illness. Okay, go ahead in box two.

Moving right along. Momentum is so important in the fluidity in a lesson. You have to keep up the momentum. If you give them too much time, your lesson will drag, kids will get bored and they will tune out.
R: How do you decide the right momentum?

Uh, it's just from experience. And it all depends on the class you have, as well, and, I mean, there are so many variables involved and through experience and having these kids for a year, you learn as to who tunes out the fastest, and you can gauge based on the expressions on their faces, the tasks they are attending to, if they are fidgeting is, you are reading so many things at the same time. So you, you, you are checking and assessing and observing physically what they are doing, how they are acting, you can almost see what they are thinking through their actions and their expressions on their faces. Yeah, you know, you gauge it, and depending on each activity, everything is different, too. They might buy into something like PE really easily, and you, they won't be bored with that, where as something like critical thinking skills, it's tiresome, it's exhausting. So, you, I find I have to keep it quick paced, to keep them on board. To keep the lesson manageable. Otherwise you will have kids that are mentally exhausted and then they can't do anything else for you. So after an activity like this we will do something completely different, usually independent where they can do their own thing, or go outside, or whatever.

So now, in box two, right here, you should be drawing a scene showing your explorer facing a hardship, or difficulty. Include as many details as you can remember.

Again, I'm prompting them. It almost sounds like a narrative. I'm, you know, little tidbits to keep their thinking moving along. I know grade fours more so than the grade fives stumble with their thinking, and it's not always fluid. And they get stuck. And when they get stuck, they put their pencils down and that's it, they have checked out. Again, I'm reminding them where they should be. Other than Julie watching you film her, everyone's got their pencils down, they're all writing, all on task, they are all engaged.
Teacher wandering around room, stops at one student to talk to him, pointing at his paper, and then the board. She continues to move around room.

And allowing myself to wander around, here right off the bat, I pick out that Ranjeet is not following the same set up as what I have written down. So, I am giving him a little one-on-one guidance.

One important obstacle or hardship or problem that my explorer had was ________________.

Prompts. Allows them to fill in the blank.

Now, I would like you to share and explain your illustration with your buddy across from you. Go ahead.

Share time, really important. I really value share time it’s so great. For me, as a teacher, to listen to what they have, what they’re thinking and what they have as a response, and how they got there. But it’s important for the peers to see that too, to hear that.

Let’s hear some of your ideas. Who would like to share their illustration and what their partner drew?

Calls on student to respond. Student response: (inaudible)

See, no right or wrong, it’s okay, it’s keeping the language flowing.

Can you add the name of the boat he was on?
Having them offer more details, or, again, prompting them with another question to add to their answer.

To Student: Great job! Well done. I like that you talked about the details, like the year and the body of water. Maybe you could also explain what scurvy is.

So, every opinion is valued. It is not right or wrong. It is not black and white. It also reinforces them. It reinforces that I'm listening. I think, in kids, it is critical for kids, you know, in the development of self esteem and self-worth, and how they perceive their abilities to think or do work. That I reinforce that I value them, their answers and what they've offered. I'm listening carefully to what they are saying. I'm giving them eye contact, I contribute a little bit extra to their answers, or encourage them to add more to their answers.

Great way to do assessment and observation. Because it doesn't, as I said, always transfer into their projects. So, you really, as a teacher, my God, there is so much to balance. Parents don't see that. "How did you get this mark? And they think it's number crunching, always, and it's not, there's so much involved. It's not always what they produce on paper that's of value, it's how they participate actively in class, and how they are able to interact in opportunities where they need to think and respond.

[Think-aloud transcripts: (Heather: 20-22); Videotape transcripts: Lesson A:2]

This first teaching episode highlights the high number of concurrent deliberations by the teacher in this short teaching episode (a total of approximately eighteen minutes on the tape). Further, it is rich in providing details into many of the deliberations of this participant, and allows a rare opportunity to explore a teacher's reasoning (as she understands it) behind her actions, because they are typically tacit. The two general
themes from this episode that will be discussed at this time are “Lesson Momentum” and “Valuing Students.”

Lesson Momentum

Throughout all of the think-alouds there was one thematic issue that all three of the participants deemed so significant to their actions in the classroom, that they made reference to it at least once in every lesson, and usually more than once; this was the “timing” or “momentum” of a lesson.

In episode one, Heather clearly expresses the priority that she places on lesson momentum. She stated that momentum is “so important” in the lesson because of the need for “fluidity”. She went on to state that you need to “keep it quick paced” because you need “to keep them on board”, otherwise, “your lesson will drag, kids will get bored and they will tune out.”

She was not alone in outlining the significance of lesson momentum, as indicated in these quotes by the other two participants:

*I think I was starting to feel, I was thinking, this is kind of dragging a bit.* (Kevin)

*It feels long, like, ...it keeps on going and going...* (Donna)

*And I know there were some students that were there that were with me, but I started thinking that some of them weren’t as focused as, and were starting to lose it...* (Kevin)

*This part just goes on and on. No wonder they get bored.* (Donna)
And so, I always have that feeling, like, okay, let's get through this, we can get through this part. That's always an overriding, kind of message I have in my head. (Kevin)

While it may be considered merely commonsense that it is important for students to be “on board” and not to be “bored” for optimal learning, closer examination of the teachers’ words provide insight into the critical role they perceive that “momentum” play in effective teaching and learning. Kevin:

‘Cause I felt like it was dragging, and, I was thinking okay, if you don’t get on with getting all the words put up- what I thought was the key part, now we take those key words and make those connections- I would have lost some of them. So, that’s when I started writing those words on the board.

This explanation is clearly an “if- then” statement by this teacher. His thinking was that if he didn’t get the initial part done quickly enough, (listing the key vocabulary on the board) then the intent of the lesson, (i.e. making connections between the vocabulary) could be missed, because he would have “lost them” This quote, as well as numerous other references to the momentum of their lessons implied that the participants felt that their minute by minute decisions could help facilitate the lesson momentum, or alternatively, jeopardize, an otherwise good lesson for (some) students.

And it's kind of like, well, you never want to be sitting there in front of a class boring them, or whatever, so the worry was, “Oh, we’re doing this again,” or “Oh, my God, we’re doing this all together,” (inaudible) “This is boring. And I don’t want to do it.”
In this quote, it is interesting to note that Kevin used the term to “worry” if his students are bored with the lesson. His choice of the word “worry,” instead of a phrase such as “being aware of,” re-emphasizes the importance he places on his instructional pacing decisions. Further, the word “worry” seems to indicate a concern about possible outcomes, which concurs with the hypothesis that the participants felt that ineffective lesson momentum decisions could weaken, detract from, or even undermine, an otherwise effective lesson.

Closely tied to the notion of “lesson momentum,” was how they “read” the classroom, as they perceive the ability to determine if their students are “on board” or “tuned in” to a lesson, as an important proactive strategy for them. Heather made numerous references to cues to which she is attentive in the classroom, to determine if the students are “on board”:

...you can gauge based on the expressions on their faces, the tasks they are attending to, if they are fidgeting ...., you are reading so many things at the same time. So you, you, you are checking and assessing and observing physically what they are doing, how they are acting, you can almost see what they are thinking through their actions and their expressions on their faces. Yeah, you know, you gauge it.

She goes on to suggest the continuous nature of reading the classroom:

So, I mean, you are checking in all the time. It’s all about checks and balances, I guess, eh?

The continuous and interactive nature of “reading” the classroom situation requires them to be attentive to what is going on in the classroom, and to take cues from the students, in
order to accurately gauge the attention level of the students. The teachers explained that this reading of the classroom does not include only indirect cues like body language, but also directly seeking feedback from their students:

*Asking the students if they are clear about what the instructions are. This informs me of if I’m making sense. Always checking in with the kids, if they are getting it, if I am, am expressing myself clear enough, so they can follow my instructions.*

It is also worth noting that while the participants were “reading the class” they seemed to be differentiating three levels of student attentiveness. In general terms, they differentiated between the students attending, (or “on-task”, “on board”, with them) or not attending, (i.e. “lost them” or “tuned out”) or the phase in-between, directly prior to *starting* to loose their attention. As Kevin mentioned in a previous quote, he made the point that this third phase was an important cue to respond in a way to either maintain students’ attention, or to make a decision to change the activity, *before* the students were no longer paying attention.

**Valuing Students**

A second theme that surfaced in the first teaching episode was that Heather explained some of her actions as being “reinforcing” to her students. She said:

*It also reinforces them. It reinforces that I’m listening. I think, in kids, it is critical for kids, you know, in the development of self-esteem and self-worth, and how they perceive their abilities to think, or do work. That I reinforce that I value them, their answers, and what they’ve offered. I’m listening carefully to what they are saying. I’m giving them eye contact.*
Heather also explained that she felt it was important to express value in their ideas and opinions, as well:

So, every opinion is valued. It is not right or wrong. It is not black and white.

I'm curious as to what they are thinking and how it's different than everyone else.

Closely tied to this idea, was placing value in their students' thinking, rather than simply getting the right answer. All of the participants made numerous comments in this regard:

Again, I said there is no wrong answer, because some of them, I know, are always worried about being wrong and they don't want to tell someone that they have the wrong answer.

For clearer meaning of what they're reading and a lot of times, for kids that age, well, even older ones I taught, seem to always look for a right or wrong answer, when a lot of questions are not clearly "right there" questions. So, I'm trying to get them to realize ... that they don't need to find my answer, ... so to expose them to that.

Um, I wasn't so worried about right or wrong. Like, sometimes they're so stuck on 'this has to be right' or 'this can't be right, so I'm not going to write it down'. I wanted them to be able to um, make some predictions, I guess, and if they thought ... something that they thought was right, to write it down.

These comments also show their concern for providing a safe learning place where students are encouraged to take risks with their answers. One of Heather's comments on
this matter highlighted some of the follow-up questions that she might ask her students to ascertain the thinking behind their answers, and how this might inform her next actions:

*I'm interested in the thinking behind the answer. Why are you coming up with that answer? Explain to us where is that coming from in your thinking? Back it up with some evidence. Where are you drawing that evidence from? Is it experiences you have had before? Is it something that we learned right here today in the classroom? Where are you getting this information from, to make, to, that has defined your answer? Sometimes it's not about the answer, it's about the thinking behind the answer that really lets a teacher know whether a kid gets it or not.*

Summarizing some of the topics that emerged from the first teaching episode, the teachers place an ongoing priority on lesson momentum. As such, they understand the need to constantly read the classroom for the students’ level of attentiveness, and actively seek out direct and indirect feedback from their students. The teachers believe that some of their actions were attempts to express value in their students and to consider the student’ self-esteem in their interactions. Their actions were also meant to convey the message that diverse opinions are respected, and they placed a high priority on having the students express their thinking behind their responses.

**Donna (Grade 3 Language Arts)**

I set up my camera in the far back corner of the room, near the teacher’s desk, during lunch break. At the front of the room was a large carpeted area, with a rocking chair in one corner. To the left was a large book centre area
shelves at the students’ eye level. The twenty-two primary desks were arranged into pods of four and fives on one side of the room. There were three computers in one corner, with an art easel close-by, beside the sink. There was an overhead projector set up with a screen pulled down from the wall and tied with a string onto a chair.

The school bell rang and the teacher walked into the classroom with the students following them. They went into the cloakroom and hung up their coats. A few of them said hello to me as they settled into their seats.

Donna had chosen the picture book “Mortimer” by Robert Munsch, for a lesson on inferring character attributes with her grade three class. In the following lesson, she read the book aloud to them, stopping every few pages to have them fill in a double-entry sheet which included them writing observations of the character’s actions from the book on one side of a margin, and then giving their “impression” of the character (using descriptive words) on the other. After reading each section, she would close the book and circulate around the pods of desk. The following is a transcript excerpt from her think-aloud:

Teacher walks away from the overhead projector, and the students begin to write on their sheets. The teacher walks right to a student’s desk and bends down and talks to a student.

*I’m back at Stephanie again. She has the hardest time.*

Teacher walks away from student and walks right to another student’s desk, where she leans down to his eye level and points to his paper.
Checking Chong’s, because he is still Level 1 ESL, and can answer and thinks he’s done, but doesn’t always understand it. So, in that case, I’m re-explaining. Trying to get him to describe the character instead of just the action, or the feeling. He’s saying the character is angry, instead of, he thinks he’s mean, or an adjective to describe the actual character. And it didn’t really work, so I was (laughter) kind of at a loss how to try and do that and get him to understand that. Because he changed one to “mean”, but I still don’t think he understood the idea.

Teacher reads another section of the book aloud, while circulating in class. When it comes to the chorus, the majority of the class start to sing along “‘Clang, Clang….‘”

Let them sing it. They know the song and they like it.

Student calls out “ My mom taught me that song.”; Teacher talks to student: (Inaudible)

Nick said something there again. I can’t hear quite what I said, but Nick was talking to someone or something.

Another student calls out “ I have that song on a tape with …”

(laughter) I motioned for Daniel to stop calling out ‘cause that was probably more than two or three times already.

Teacher reads next pages of book, circulating and students all read the chorus together, Clang, clang … One student calls out, “Mortimer is bald!” Students laugh. They all want to look at illustration as teacher holds up book walking around room.
(Laughter) That's very typical in that room with that group. They always have to say something. But at least they're involved.

Now, please go ahead and fill in the next box about the part of the story I have just read. Remember, in the first box, write down the actions of the character. In this case, the character is the Mom. And in the second box, you are writing down your impression of the character. Remember we are looking for adjectives to describe the character. Go ahead.

Teacher circulates in classroom for a few minutes as students are writing on their sheets.

Now I'm at Jessie, who's like, always the fastest, usually right on, so I'm trying to find something for him to do now (laughter) at his level, because he's always so fast. So, I usually get him to either fix something up, even his spelling, to find things, or add details.

Classroom door opens, another teacher pokes in head and says “sorry” and closes door again.

I'm back at Stephanie, helping her out. She's doing the writing, but, just kind of talk to her because she usually says the words, then she can write something down. You have to make her say it to you.

Now, tell the person across from you what your impression of the character is. Remember there is no right or wrong answer, just your impression, your ideas of the character. Okay, go ahead.
Again, I said there is no wrong answer, because some of them I know are always worried about being wrong and they don’t want to tell someone that they have the wrong answer.

Teacher circulating around room, stops at student’s desk.

Now I’m at Ravi because Ravi likes to show what he can do, but he doesn’t work all that well with other people. So, I went there and I wasn’t surprised to see what he was doing, kind of his own thing, and not sharing with Sue, who was sitting across from him. He was just reading or writing or something. To remind him, to actually talk to someone.

Teacher circulating around room, stops at student’s desk.

I’m helping Trevor. I can’t remember if it was, more grammatical, I think.

Teacher circulating around room, stops at student’s desk.

Here I tried to challenge Hugh, trying to compare the two, because he should be at a little bit of a higher level thinking for that. So, kind of, wanted to challenge him to compare Mom and Dad [two characters] because, that wasn’t in the script.

[Think-aloud transcript: D:64-66: Videotape: Lesson D: 2]

The themes that will be discussed from this teaching episode are, “Accommodating Individual Diversity”, “Momentum vs. Individual Needs” and “Instructional Pacing Decisions.”
Accommodating Individual Diversity

Teaching episode two captures approximately nineteen minutes of classroom activity, and illustrates the large amount of time and energy that Donna invested in trying to accommodate individual students. The types of individualized learning support she provided could be generally categorized as ESL support, (English directions) learning style support, (talk through her answers before recording them) social skills support, (cooperative work) behavioural support (reminders to refrain from calling out) and enrichment support (extending the lesson for two students).

This episode demonstrates that addressing these differing needs is no easy task, especially because the individualized support is not just required by one student, but a number of them. In this short lesson, Donna individually assisted eight students (out of a class of twenty-two) whom she believed to require accommodations. What’s more is that this individualized support needed to be done simultaneously, in this case, during the written seatwork aspect of the lesson. As a result, the transcript shows her moving from one student to another to another, and back again.

Many of Donna’s actions in this lesson were her direct attempts to differentiate the lesson to accommodate the diversity in her classroom. This differentiating required Donna to take the time to identify individual needs, and then to make the effort to individualize support to meet those needs. At times, she made mention of her struggle over which actions to take with individual students. For example, she mentioned she was ‘at a loss how to try’ to get one student to understand the concept she was trying to teach the class.
The other two participants offered comments during their think-alouds, describing how some of their actions in the classrooms were in direct response to the diverse needs of their students:

*I'm always checking with the kids because there is always that handful, and you realize they are not on task, they don't get it, and then you have to do some extra teaching, or mini-units or mini-lessons.* (Heather)

*But little guys like Michael, who gets lost, he has such a short attention span, that I get them on board by just again, revisiting what I just said, reminding them what they are supposed to be doing and then "Oh yeah, that is what I am doing," and then he gets back to work. See, he has his pencil again and he's working again.* (Heather)

*Um, also with this group, there are some that are trying to do about three different things all the time. And, when they are trying to do that, they get lost, and they kind of, not lose interest, but they get lost, and forget the purpose of doing something is.* (Kevin)

*Here right off the bat, I pick out that Ranjeet is not following the same set up as what I have written down. So, I am giving him a little one-on-one guidance.* (Heather)

These quotes indicate the diverse learning needs of their students have a profound effect on the actions of these teachers in the classroom. Further, the more students requiring individual accommodations, the more the teacher’s time is afforded to that endeavour.
Lesson Momentum vs. Individual Needs

Teaching episode two also gives a sense of the unrelenting shifting of the teacher’s attention from reading whole class engagement, (i.e. being attentive to overt signs such as body language, and on-task behaviors) to determining and responding to individual student instructional needs, all the while gauging instructional “momentum,” as discussed earlier, to ensure that the overall intent of the lesson is not undermined.

During this continuous gauging and shifting, the participants made reference to a number of simple actions they employed to assist some of their individual students to stay with the class, thus, keeping the lesson “momentum.” One such action was circulating in their classrooms:

> It’s amazing, like, teacher proximity to students. As I am walking through the classroom, Michael was watching the rest of the kids work. I’m walking towards him and what does he do as I am approaching him? He turns around and focuses on his, his work. I think there is so much value in that. Like teachers need to walk around the room, like they can’t just sit there and teach, from the one spot, from their desk, or from the front of the room. They do need to move around. There is a lot of awareness that happens there unconsciously, subconsciously. (Heather)

> His pencil is not even on the paper, he’s rolling his head around. Now I’m coming back over there, and OH MY GOD, did you see that? He jumps back to his paper as soon as I walk over there. That’s what I’m talking about. (laughter) No wonder he’s at the front. (laughter) What a reaction! Holy cow! (Heather)

Another was the importance of providing verbal prompts:
Okay, prompting them again, asking them could you use a few words instead of one word, “Silent” doesn’t give much information about owls. What is it that is silent? So, asking him to use a phrase will give more explanation as to what is silent. Fills in the blank. (Heather)

I just announce a few prompts to keep them focused on their tasks. (Heather)

Instructional Pacing Decisions

In addition to actions aimed towards individual students, they also explain some of their decisions as responses to their gauging of overall class attention. Returning to the three levels of student attentiveness discussed earlier, these decisions are often at the crucial moment at which they perceive they are just starting to lose the attention of the class. At this point, they may choose to change their instructional plans. This could include small changes in their lesson plans:

‘Cause I felt like it was dragging, and, I was thinking okay, if you don’t get on with getting all the words on and get to putting them up, what I thought was the key part of now we take those key words and making those connections, I would have lost some of them. So, that’s when I started writing those words on the board. (Kevin)

Conversely, they might choose to outright discontinue a lesson:

So, there I was sort of, going on the seat of my pants, because I planned to do another thing on the overhead, where we would actually do examples of inferences, but there wasn’t a lot of time, and I was scared that I would confuse those ones that weren’t totally getting it yet. So I wasn’t too sure at that point if it was a good idea to just do the observations on the overhead and then give them the page to see how they infer or if I should model it first. So, there I wasn’t too sure of the time, and I was, just do it the same as that one. Just the
observations, and then see what happens when they actually did the inferencing on the page. I think most of them, kind of, for the page, the questions were fairly simple, so most of them probably would have been able to do that, I was pretty sure, but I thought if I explained it, then I would confuse them, because they sometimes do when they get too many things... (laughter) So, I opted not to model the inferencing there. (Donna)

Just as the earlier quote, where Kevin “worried” about his instructional pacing, here, Donna described herself as “scared” to make the wrong instructional decision, in case she might “confuse” some of her students. These two emotive words illustrate once again just how strongly the participants perceive the importance of them making appropriate instructional decisions, due to the possible negative effects on their students.

Donna honestly expresses her uncertainty when deciding on her actions at this point, (i.e. “going on the seat of her pants”) stating that she “wasn’t too sure” of her instructional pacing at that point. She stated that she was struggling to decide if she should continue with the inferencing part of the lesson, (which was her intended outcome) or just leave it at the point of making only observations, and return to the inferencing during another lesson. She appeared to weigh out her options, (almost instantly, we can presume because she acted on it immediately) and “opted” to change her original lesson plan, abandoning the concept of inferencing for another day. She hinted that the time factor was part of her deliberations, (i.e. either not enough time left to cover concept) but in the end, her concern over “confusing” some of her students appeared to be the ultimate deciding factor in her setting aside the intended concept.

While the need for accommodating diverse learning needs of students is obviously nothing new, this teaching episode has helped illuminate the hectic pace, or
‘velocity’ of teaching, as well as the taxing energy that can be required when supporting individual students, depending on the number of students requiring it. A key point is that this individual support is often required simultaneously which is highly demanding of the teacher. These demands are further complicated because it also entails being mindful of whole class lesson momentum as well.

The participants have found certain strategies to be helpful as they try to accommodate individuals and to simultaneously ensure overall lesson momentum, including constant verbal prompting and physical proximity to certain students. They place great importance in their instructional pacing decisions, (which may include anything from staying with their plans, to small tweaks in a lesson, to abandoning their curricular intents altogether) which take into account particular variables before them such as student diversity, time constraints, as well as lesson momentum.

**Kevin (Grade 5/6 Science)**

The students were already sitting in their desks when I entered the classroom. I opted to walk through the cloakroom, to get to the far corner of the room, instead of navigating a tight path through the crowded classroom. The thirty desks were arranged side-by side into four rows running parallel to the front white board. There were two teachers’ desks at the back of the class, three computers down one wall and a round table at the back with four chairs around it. At the front of the class there was a freestanding flip chart.

Kevin was ready to begin teaching a Science lesson on electricity. In this lesson, he had planned to have the students scan a chapter on electricity in a
science textbook to create a class list of key concepts. They had already covered this topic, but had not used the new textbooks as yet, because they had just arrived. Once they had developed a list of key words from the chapter all together, the students were to choose six of the words recorded from the board to create their own "concept web" in pairs.

Kevin drew an example on a flip chart for the students, using two circles with arrows between them. He explained that each arrow that connected any two words must be labeled with words or phrases that explained the relationship. He told them they must choose six words from the list and every word must be connected to at least two other words by an arrow.

*But then when we went back, and one of the students focused on the title, there were a couple of words related to one of the key words. So I wanted to kind of, make that connection with that in the title. I mean, it wasn't really a technical electricity word, but it could be attached to it, so that would help them when they were trying to make those connections. Hopefully, give them some ideas.*

*See if they could make any sense of those connections and tie them to their new information, their new words that they got. And then also to see if they could tie in new information, or understanding of what electricity (inaudible) So that, I just wanted to see what kinds of connections they could make, instead of just taking this as okay, that's that page. So, making other kinds of connections is what I wanted to see what they could do. And some of them, did actually start, especially, make connections with the understanding they have from the previous unit, from the time before, they tried to go back to there, so that was kind of neat to see, good to see.*
I think they were able to make some, well, all of them made pretty surface kind of connections. Things like, that whole section that we looked at was looking at parallel and series circuits. And, they were able to give good information of what a series circuit was, so they did a good job of that. And they were also able to give information on what a parallel circuit was, so they were able to look at the two. What they didn’t do, or what they had a hard time with, or didn’t even attempt, or just didn’t make the connection between the two subjects, and that would have been hard. I think that even just by looking at the materials, even after the unit, if we hadn’t done any investigations, I think it would have been a stretch.

These are the things we know, and unless you go back, and really explore things, I don’t think, unless we point them out, some of them don’t see the connections- some of them do, and it’s amazing, some of the connections that we saw. Like, ‘Wow, I don’t’ realize that, this is connected to this and this is connected to this.’ Um, so, and some students just, it takes a lot of work.

It is clear from this excerpt, that Kevin’s think-aloud sessions had a different rhythm than the other two participants. As reported earlier, Kevin usually watched his videotaped lessons in silence for a number of minutes (anywhere for 1-5 min) and then would turn off the tape, and give an overall synthesis of his reasoning or rationale for the few minutes of the lesson. This particular episode was chosen not so much for the “play-by-play” of his reasoning, but more so for the follow-up introspections that he provides on the lesson. The two themes chosen from this episode to be discussed are “Student Connections” and “Curricular Time Demands”. 
Student Connections

The recurring theme in this think-aloud was Kevin’s concern as to whether his students were able to, or were not able to, make various “connections.” Since the strategy he was teaching focused on having the students explicitly show their ‘connections” between concepts by way of a mind map, it is impossible to tell if the theme of “connections” would have surfaced so much, or at all, in his other lessons. However, a later quote included part of his beliefs about teaching Science:

*I think that often, especially with Science, a content area, I think we really stress just the content itself, like, you need to know the words, or, the definitions, or whatever, that we studied, but we really don’t go beyond that. And I wanted to stress how important the connections were. Just to have a really good overall understanding of how they are connected, instead of just knowing the words in isolation, regurgitate the definitions, or, label this diagram, kind of thing. That’s what I remember of Science. So, I want to make sure that it was having a good overall understanding of those connections before we did the next concept map.*

While this explanation hints that even if the focus on “connections” may not be as evident in all of his lessons, he is clear on the reasons, and possibly has been thinking about how to incorporate making connections more evident in his teaching.

The priority on having students making “connections” was mentioned repeatedly throughout the think-alouds by all of the participants. Interestingly, the phrase “making connections” seemed to mean a number of things. At times, it meant connecting new vocabulary:
Because we hadn't actually used that word before, 'impression of a character'. We talked about the same kind of thing, or using adjectives, to describe characters, but, I hadn't used that one,...so, I wasn't sure if they would understand what that would be, because they don’t always make the connections. (Donna)

It was also referred to in terms of connecting with personal experiences:

...to revisit those things so they make connections and that is really important. Making connections to not just what is on the table, but to personal experiences as well. (Heather)

While discussing 'making connections,' Heather focused on student understanding:

You know, you never know how kids will lift information from a page. You don’t know how it will be internalized, if it will at all, and, how much of the language they are actually internalizing and what meaning they are getting out of it. So I think these lessons are really critical to understanding- making meaning of what you have read, and putting value to what you’ve read, too. A lot of kids can read a book and say "So what? Why do I have to remember that, that's not important. Or, is it? Well, let's talk about that for a minute.

Heather goes on to define the goal of student “understanding” as “making meaning” and “putting value” to what is learned. She sums up with “This is where the real learning takes place!” illuminating her belief that “real” learning is making meaning and seeing value in that meaning.

As the teachers watched themselves teaching, they described three ways through which they observed themselves determining their students' “reasoning,” or “connections,” or “where their understanding is.” The most direct way was through
student-to-teacher interactions. This included both students’ questions and their responses. The second was by way of student-to-student interactions, which the participants felt was invaluable, because they heard the students processing aloud. The third way they ascertained students’ understanding was through completed assignments. Completed assignments were distinct from the other two in that they typically came at the conclusion of a lesson, and therefore were not seen by the teacher until later when they were being marked. The first two methods to determine students’ thinking were understood to be formative in nature, while the third was more summative, as Kevin stated:

*We’ve done the investigation, so this is more of a, I don’t know, if it’s a summative piece, of what have you got from this part of the investigation? What did you know and what can you add there, because of what you know? (Kevin)*

The teachers also noted that while they couldn’t use completed assignments to inform any on-the-spot instructional pacing decisions, they were used to inform their future instructional decisions.

**Curricular Time Demands**

Kevin continued to reflect on the summative assessment, raising a “hard” dilemma for his teaching:

*And if, that summative piece wasn’t there, where I think that, Oh, you know what? They’re still missing it, they don’t have what I thought were the key concepts, or the connections that they should have gotten, from looking at the concept maps. Now I have to make the decision of where do we go from here*
now? Do we go back and redo the investigation again? Do they, do I, take the
time and go back, or am I feeling that I have to go on? And that's always the
dilemma, .... when you get the summative piece.... And that's the hard part, I
think.

These excerpts highlight the tension for this teacher between “having to go on” due to
curricular time constraints, and his assessment that the intended concepts have not been
understood by students to a satisfactory level. He goes on to outline his next thoughts:

And then, again, after that, the decision becomes, okay, we really missed the
concepts here, how do I, now, what strategies and lessons will help me get to
those concepts? Instead of, here is the summative piece, they got 10 out of 15, I'll
just put the mark up, and move on.

In another quote, Kevin expands further about this dilemma:

I think part of it is, is sometimes I'm feeling, that when I'm doing a lesson, I need
to get through the lesson, so I feel like I'm on a time restraint, so I'm feeling like I
shouldn't take the time, at one level, I think, and then, at other levels I'm thinking,
you know, I really have to do this, because this is really important. So it's that
kind of dilemma of balancing of okay, I need to get on with this lesson, and I
really need to get to the activities so I can do it, compared to 'this is really
important, to get that out there, to get other people, so it's always sort of a, what
do I do, because sometimes, I think, that I don't spend as much time as I should.

These quotes offer a direct and honest depiction of a teacher grappling with a
dilemmas of practice at different “levels” whereby he must come to some sort of resolution
(even if only a temporary one) because he knows that he must act. In this case, he is torn
between moving on to new concepts, due to curricular time constraints, and slowing down
to focus on concepts/procedures that he believes are "really important", leaving him to ask himself, "What do I do?"

As well, the last sentence "Sometimes, I think, that I don't spend as much time as I should," is very interesting, especially in light of his quote in the earlier section, where he said he "worried" about "loosing" his students, with too slow an instructional pace. Now he is reflecting that he may not be spending enough time for the students to make the connections that he feels are important and his understanding of the dilemma has been further complicated. Stated simplistically, his dilemma is curricular time constraints vs. students' meaningful connections vs. appropriate instructional pacing.

Having curricular time constraints means a limited amount of time to cover topics. As outlined in the overview of the research study, all of the participants took part in a school district initiative that focused on comprehension skills using various instructional strategies that often required longer periods of time to complete than lessons that do not require as much talk time and/or reflection. Heather made mention of "the risk" of spending so much time on these strategies:

*It is a big risk, because well, on one level, time itself, time is huge. And to get through what you need to get through in a day, do you have, are you going to risk this forty minutes to get through what you need to get through, or you know, yeah, it is a risk. But it's also, you know, you have to learn to manage yourself, your time.*

Kevin, too had serious initial reservations:

*That's the one thing that... I was skeptical about that at first. When we went to the first session, with Sharon, (facilitator) where she talked about really kind of focusing in on things and saying you need at least an hour, and I'm thinking...*
about my Language Arts lessons and thinking, wow, a whole hour just for kind of talk time and for the whole class doing an activity and really kind of going through it, and I’m thinking, I don’t know if I can do that. I don’t think I’ve ever done that, no reading, no writing, no anything, it was just getting stuff and talking with the class and having a discussion.

Clearly, from these quotes, Heather and Kevin both had some initial concerns regarding how much instructional time the modeled strategies would require. However, in the next breath, Heather talked about some previous positive results when she implemented such strategies: She said:

If you compare it, if you take the class and do it two different ways, okay, before, this is how you do it, go for it. And you look at the quality of their answer, and you compare it to something like after this, it’s two different students, but it’s not! It’s the same student,... like the spectrum is just, the range is huge.

And uh, I can’t say enough when you compare a pre-taught lesson and a post-lesson, the difference between the quality of writing, it’s just, it’s just so tremendous.

Heather goes on to make the point that she believes these strategies are so successful because they focus on ‘making connections’:

Half the time you give them some information without a strategy and its forgotten, or they don’t remember, or it’s not accessible or, it just sits there, they can repeat it to you like a computational skill, like 5+5 = 10, but I don’t know why, you know? So meaning making is really essential and that is what is brought out to the forefront if you continue working through these strategies. I love it and I find it really fun. I’m glad I am doing this because as
Heather believes a long-term goal is to have the students independently apply these strategies:

They feel empowered when they have a strategy tucked away that they can pull out and it's like a light bulb going off when they are being faced with new information and they don't know how to assimilate the information, how to organize the new information, they don't know how to make meaning of the situations and then all of a sudden they think, uh-huh, I remember how there's a strategy here that we've learned and they can connect it and use that strategy to make meaning of new language or um, new information or facts that we've come across.

She continues by outlining some of the positive effects on her students in this way:

So there is a sense of confidence and empowerment. And after that you know, they could, you know, just (laughter) teach themselves. (laughter) It really works as a vehicle to um, to bringing in the information in your system, in your brain, so it is accessible in the future.

And she adds a comment about the students' enjoyment of the activities as well:

The kids enjoy doing this. I don't, I don't teach every subject, every lesson, like this. There is a lot of talking and this, this is very time consuming. But, they enjoy it when we do do it.
Heather summarizes her thoughts on the power of these strategies by returning to her initial statement about “connections” in this way:

And the details that were, that were in their writing, were completely like, night and day. So, I’m not going to do this every lesson because I talk way too much and I think they start to tune out. I talk way too much and they are not getting enough work done. But, man, you introduce a lesson like this, or a unit and you throw it in once a day with various subjects and it really keeps them on-task and it, I think, they get it. They get the philosophy behind the strategy. They get why, they understand why you’re teaching it, what the importance is. And that’s critical because if they are using things that they don’t understand why they are using, they aren’t making that connection. That connection is what learning is.

Though Heather outlined all of the perceived glowing benefits of these strategies, there is still the hint of the dilemma that Kevin had sketched earlier. While Heather expressed delight in the connections her students were making in their learning, (meaningful connections) she still worries about having to “talk too much,” which means they might start to “tune out” (instructional pacing) and she is uneasy about how much time these lessons take. (curriculum time constraint) She appears to have dealt with this dilemma, (i.e. curricular time constraints vs. student meaningful connections vs. appropriate instructional pacing) at least for now, by “throwing” in such strategies “once a day or so.”

Returning to Kevin, he reflected on his dilemma later on in the follow-up interview in this way:

And I remember the first time I did something with the class, I think it might have been, I think it was that journal entry diary entry. And doing it with my class and really spending a lot of time just doing that and then, later on, with all that picture
work and working through only one paragraph and looking at each sentence or all the ideas that came to our mind and thinking, you know, this is really valuable, and hopefully what the students were getting out of it. But this is just one little piece of writing and all that time was spent just kind of looking at the different levels of meaning in those words and really kind of focusing in on that. Now I'm thinking, Wow, I don't know why I didn't do this before or why it didn't click for me? This is really important and the discussion and what the students were getting out of just this one, whereas, you know, before you would get ideas from this chapter, just to rush through that, hoping they get something from it, but not really kind of teasing it out of them. ...That was almost an epiphany, or something, I thought WOW, I should have been doing this years ago. How far they came and how valuable and what the students were getting out of it. That was definitely a highlight this year.

This is a very insightful quote that shows how pleased Kevin was with the learning of his students using these strategies and how he discovered the value of focusing on the quality of student comprehension and letting go, at times, of having to rush through concepts due to curricular time constraints.

...But, with everything that we did, when we did it, both times, a number of times, I don't recall if there was anytime where they said, "I don't want to do it, or it was boring." So, I think, my interpretation of that would be, "this is helping me because maybe I wouldn't have gotten all of this by myself." That's my feeling. That was my interpretation of it.

Finally, Kevin returned to his earlier comment about "worrying" that slow pacing or repetitive strategies would bore his students:

And I didn't get the one worry that I had before.
This comment seems to indicate that he learned that he will not necessarily “lose his students” due to a slower instructional pace, as long as they are engaged in a meaningful way, as they were using these strategies, which focus on active processing of the information. Like Heather, Kevin seems to have decided on an adequate action plan to his dilemma, for now.

To summarize, this third teaching episode focused on the teachers’ intention of providing instruction in which students are making “connections”. The teachers used the word “connections” to refer to a variety of things, including: concepts, new vocabulary, personal experiences, and making meaning. They described themselves as using three methods to ascertain how well their students were making “connections,” namely through student-to-teacher interactions, through student-to-student interactions and through completed assignments.

This section also illuminated the participants’ concerns over strategies that helped their students make meaningful connections were time-intensive which created conflict with mandated curricular time demands. They also talked about how this was further complicated because they were always mindful of appropriate “instructional pacing,” (as referred to earlier) as to not undermine the entire lesson. These competing demands were characterized as curricular time constraints vs. meaningful student connections vs. appropriate instructional pacing. The teachers understand themselves to need to decide on an action, even if it is only a temporary one, because their practice demands it.
Cross-Episode Summary

Combined, the three teaching episodes paint the unpredictable classroom landscape and highlight the types of considerations the participants account for when deliberating on their next actions in the classroom. Some of the emerging themes will now be summarized.

All of the participants place a high priority on their “instructional pacing” decisions in the classroom to maintain learning “momentum,” because they believe it is a key factor in an effective lesson; not to do so could undermine a lesson. In order to determine what is appropriate pacing, they must find ways to gain feedback from the students, including indirect cues such as body language, and direct cues, such as giving them opportunities to tell the teacher directly.

The teachers described themselves as using student feedback to monitor levels of student attention. They informally refer to these three levels of attention as being “on board,” or, “loosing them,” or the middle stage of, “about to loose them.” They use their assessment of student attention to help them determine their next course of action in their lessons plans. Their subsequent actions include a wide array of options, from making small tweaks in the planned lessons activities, to major shifts in focus, to completely abandoning the intended lesson. As such, they see the need to “read the class” correctly as a very critical proactive skill, as it strongly influences their actions in the classroom, and a “misread” could seriously jeopardize an otherwise effective lesson. According to the participants, this “reading” of the classroom is not an easy task, especially given “all that is going on” and the diversity of the students in their classes.

Individual student accommodations require time and energy and the more students requiring the support, the more taxing it is. One of the episodes captured a teacher literally
rushing from one student to another who all required various types of support during the lesson. On viewing her actions, the teacher did not bemoan this fact, but instead quietly reflected on the complexity of trying to meet the needs of these individual students while simultaneously reading and responding to overall class momentum. She admitted that she was at a “loss” at times, as to how to do it all.

The episodes also illuminated that in addition to constantly “reading” the classroom, the participants were attentive to the “connections” that their students were making. They understand themselves to assess the types of connections that their students make through student-to-teacher interactions, student-to-student interactions, as well as through completed assignments.

The participants believe that certain teaching and learning strategies increase the likelihood of having their students make meaningful “connections” but that such strategies often require lots of discussion time, which is very time consuming. This creates a dilemma for them as their desire to provide adequate time for meaningful connections is in direct odds with mandated curricular time constraints. This adds another variable to the “instructional pacing” that they already see as so critical to effective instruction. They articulated this as an ongoing issue that directly effects their short-term and long-term instruction and planning.

Finally, they explained some of their actions in their classroom as having the sole purpose of reinforcing the students that they are valued for their ideas, for their opinions and for being individuals. This purely humanistic aspect of their work was also evident when they made reference to their own sense of fulfillment as they watched the students enjoy an aspect of the lesson, or simply work together cooperatively.
Teaching Episodes through a Phronetic Lens

As discussed previously, Aristotle suggests that humanistic endeavours such as teaching, are performative, rather than productive, as the main concern is with action (Dunne, 1993). The teaching episodes in this study illustrate the unrelenting pace of the number of actions required by teachers in the classroom, in even very short periods of time (15-20 minutes). What’s more is that the great majority of these teachers’ actions required immediacy, or what Schön (1983) called “reflection-in-action.”

According to Aristotle, not every action can be characterized as phronetic, but only those actions that are governed by what is deemed to be “good for,” or “best for” others (Dunne, 1993). In the second episode, Donna is observed constantly making accommodations for her individual students. There is no doubt that this takes extra effort on her part, when compared to providing one general lesson, with one corresponding assignment, with identical expectations and levels of support to all her students. She puts forth the effort of making accommodations (i.e. one student needs support spelling her ideas, another student needs language support, another student needs extensions to the activity) to students who require it, as she deems her accommodating actions to be “good for,” or in the best interest of these students.

In addition to being concerned with what is “good” for others, Aristotle offers that phronesis also requires the “means” and the “ends” be considered, so as to not instrumentalize human endeavours (Dunne, 1993). In the episodes, the participants stated that some of their actions were directed towards how the students felt about themselves, that is, whether they felt their ideas and/or selves were valued; these are clearly non-instrumentalizing, humanizing
actions by the teachers. These actions can also be said to be interested in their students’ well being. The participants in this study made frequent statements specifically stating concern for their students’ well being:

*I reinforce that I value them, their answers, and what they’ve offered.* (Heather)

*She doesn’t put her hand up often, so I wanted to make sure I asked her.* (Donna)

*I wanted to make sure that all of them got a chance.* (Kevin)

These comments demonstrate some of the priorities the teachers have for their students. They indicate, that at the moment, they are not concerned with the well-publicized form of end goals – that of performance on standardized tests, but rather, they are focused on expressing to their students that they value each student as individuals. This emphasis on ends in themselves enable humans to conceive of doing the right thing, with respect to dwelling with others, (Hansen, 2001) and the teachers actions in this regard can be said to be closely related to Noddings notion of “care” (1988).

Aristotle points out that being cognizant of both the “means” and “ends” of actions will create certain moral dilemmas for individuals, as there are times when the two will be at odds with each other (Dunne, 1993). These episodes highlight how teachers encounter these moral dilemmas constantly in their work. For example, in episode three, Kevin talked about the dilemma of the long term goal of curricular time demands conflicting with the time required for meaningful student connections. Heather made mention of her quandary of wanting to implement strategies that she believed to be empowering her students as learners, but at the risk of losing time to ‘cover’ mandated curriculum. Striving to accommodate
individual needs, while simultaneously maintaining class-wide lesson momentum presents an ongoing tension for Donna, as well as the other two participants.

Another example of a clear moral dilemma from the episodes was when Kevin talked openly about the challenge of deciding whether he should move on to new curriculum, or take the time to review concepts that he deems to be of importance, but not yet realized by some/all of his students. His succinct question, should he “just put up the mark and go on?” captures a fundamental dilemma, as to when should a teacher decide to move on to new curriculum. In accordance with the pre-determined expected curriculum guide timelines? In accordance with his/her assessment of students’ meaningful connections? A compromise between these two? If a compromise is decided upon, should it be when the majority of students have met the curricular expectations? If so, what are the possible ramifications for the minority of students who did not? Kevin’s poignant question exemplifies not merely the considerations that teachers take into account in the classroom, but also the complexity of teachers’ deliberations behind their actions in the classroom, because of competing intents.

Connecting the Particular and the General

Aristotle suggests that while such moral dilemmas are inevitable, it is none-the-less impossible to be prepared in advance to employ generalized rules for action (Dunne, 1993). Stated differently, appropriate actions are indeterminate beforehand because the situational particulars need to be revealed before reasoning as to how to act appropriately can be determined.
Further, Aristotle proposes that in reasoning their next action, individuals do not deliberate through syllogisms, but rather, they deliberate non-syllogistically (Dunne, 1993). He proposes that these deliberations consist of a moving back and forth between the particulars and the general, as the individual tries to reason through the situation unfolding before them. The think-alouds in this study illuminate the constant shifting in the deliberations of the teachers.

Following is an excerpt from episode two, when Donna was circulating at students’ desks. Her think-aloud comments are provided in bold italics and added commentary suggests possible generalities and particularities that are evident in her deliberations.

*Checking Chong’s, because he is still Level 1 ESL,*

(relating to general theories of characteristics of students of Level 1 ESL)

*and can answer, and thinks he’s done,*

(particular characteristics of this student through experience)

*but doesn’t always understand it.*

(particular experiences with this student’s language level)

*So, in that case, I’m re-explaining.*

(general theories of teaching, i.e. connecting known to unknown, as well as general theories of ESL instruction)

*Trying to get him to describe the character instead of just the action, or the feeling. He’s saying the character is ‘angry’, instead of, he thinks he’s ‘mean’, or an adjective to describe the actual character.* (general concepts of common errors in students’ understandings; to general theories of English instruction)
And it didn’t really work, so I was (laughter) kind of at a loss how to try and do that and get him to understand that. Because he changed one to ‘mean’, but I still don’t think he understood the idea. (assessment of particular student’s comprehension; general approaches to second language acquisition strategies)

Now I’m at Jessie, who’s like, always the fastest, usually right on... (particular characteristics of this student)

so I’m trying to find something for him to do now (laughter) at his level... (general theories of enrichment programming; to particular characteristics of this student)

because he’s always so fast. (particular characteristics of student; and to lesson momentum)

I’m back at Stephanie, helping her out. She’s doing the writing, but, just kind of talk to her... (specific characteristics of student)

because if she usually says the words, then she can write something down. (specific characteristics of this student; general knowledge of writing instruction/strategies)
You have to make her say it to you.  (past experiences with this particular student; general knowledge of writing instruction)

Now I'm at Ravi because Ravi likes to show what he can do, but he doesn't work all that well with other people.  (particular characteristics of this student; past experiences with this student; general strategies for improving cooperative skills)

So, I went there and I wasn't surprised to see what he was doing, kind of his own thing, and not sharing with Sue, who was sitting across from him. He was just reading or writing or something.  (particular characteristics of this student and/or past experiences with this student; cooperative learning skills)

Here I tried to challenge Hugh, trying to compare the two, because he should be at a little bit of a higher level thinking for that.  (general theories of levels of thinking; to particular characteristics of student)

So, kind of, wanted to challenge him to compare Mom and Dad, [two characters] because, that wasn't in the script.  (general theories for learning extensions; to specific particulars about the text)

[Transcript of Think-aloud Lesson D:3]

This explicit trail of Donna's thinking during one of her lessons allows us to track her reasoning, and demonstrates her knowledge of both the particulars before her, and generalities of teaching. A key point is that she did not know which generalizations she would need to consider beforehand. She had to wait until the particulars were revealed. The
way in which she connects them can be said to be examples of “the general resid(ing) within the particular and generalizations tak(ing) more than one form” (Eisner & Jacks, 2002, p.383).

One of the notions that were mentioned repeatedly throughout the think-alouds by all three participants was “instructional pacing.” At first glance, to an observer, the overt actions by the teachers regarding “instructional pacing” of the lesson may be regarded as one of logistical management (i.e. due to a given a certain amount of time to teach certain curriculum).

However, taking the time to listen to the teachers’ rationales show their deliberations on “instructional pacing” not to be merely logistical in nature, but more importantly, have to do with their practical knowledge of particulars such as student “attentiveness, “engagement”, and “connections”, to be typically key factors in students’ learning. It is noteworthy that each of these are indisputably student-centered, which is a way to become familiar with students’ understandings, and closely resembles Arendt’s notion of “visiting” others’ perspectives (1958).

Just as noteworthy, and closely related to student-centeredness, are the teachers’ ongoing actions, including, “monitoring, gauging and assessing” all of which are interactive. The participants have come to understand the importance of creating opportunities for interactions that involve both direct and indirect feedback from their students, for the purpose of perceiving their students’ understandings, so they can adjust their instructional pacing accordingly.

The teachers in this study understand certain classroom interactions as opportunities for them to become “attuned” to their students, which allow them suitable
“instructional pacing.” (This is not to say that all interactive actions necessarily involve visiting others’ perspectives. For example, if one is not open to the feedback given from the interactions, the feedback will not be taken into account when deliberating subsequent actions.) Stated in phronetic terms, the participants believe that being attuned to their students is a critical pathway to the particulars of the situation, (i.e. understanding student connections) which gives them the intimate knowledge to reason correctly, and to act appropriately.

Purposive and Responsive Actions

The data from this study suggests that the participants understand a critical feature of acting appropriately is being “responsive” in their teaching. For example, the teachers explain many of their actions as being responsive to “cues” from their students (i.e. observation of engagement, summative assignments) when deciding on their subsequent actions. However, while the term “responsive” teaching captures key aspects of the participants’ deliberations, it does not necessarily involve the moral, because one could act in a responsive way, without any regard to moral aims. As such, I am suggesting the addition of the term “purposive”, to “responsive” to characterize the nature of these teachers’ actions. Here, “purposive” is used as being oriented towards the stated intents of education, (i.e. curricular goals) while taking the means and ends into account; and responsive, by definition, is being concerned with the particulars. Considered in this way, “purposive and responsive” teaching is appropriate action, in the phronetic sense.
Continuing with this line of analysis, we can view the participants’ emphasis on “instructional pacing” as prime instances of “purposive and responsive” actions. For example, in the second episode, Donna made a statement that at one point she “decided to leave the inference concept for next lesson.” It is not until her think-aloud, that we are privy to her reasoning, namely, that she did so because she was “scared” that she might “confuse her students.” Here, Donna is clearly concerned with the means and ends, while focusing on the situated particulars of the classroom. In another episode, Kevin stated he thought he was “starting to lose” his students, which prompted him to change his “instructional pacing” and move on to the word map component, which he deemed to be the most valuable part of the lesson.

Through a phronetic lens, then, the teachers’ emphasis on “instructional pacing” moves from one of logistical management, to one that is much more profound, because it is directly concerned with the intents of the teachers. Their intended curricular objectives can be considered part of the “ends” of teaching and are deemed to be of value, or “good” for the students; the participants’ effort to be responsive to the particulars of the moment will increase the likelihood of meeting the intended good (i.e. their stated objectives). In this way, instructional pacing decisions are simultaneously concerned with the means (responsiveness) and the ends, (purposive) and as such, are deemed to be appropriate. Further, this analysis helps to illuminate why teachers place such an emphasis on this aspect, which is that they have come to understand the importance of placing a priority on this particular in their classrooms.

Further, while this part of our analysis has focused on the “instructional pacing” theme that emerged from this study, it is suggested that this phronesis framework could be used to
examine other important insights of teachers’ deliberations gleamed from the data (i.e. “reading the classroom” and “meaningful connections”).

Chapter Review: What Considerations Do Teachers Take into Account?

The teaching episodes and accompanying think-alouds in this chapter illuminate the wide variety of considerations that the teacher participants take into account when deliberating on what actions to take in the classroom. It was suggested that the great majority of the stated considerations could be listed under six general categories of; Student Connections, Valuing Students, Individual Student Accommodations, Time Constraints, Lesson Momentum, and Instructional Pacing. From this level of analysis, the sixth consideration, Instructional Pacing, could be conceived of as means to attempt to orchestrate the first five considerations.

While this list of categories may risk oversimplification of the multitude of considerations of the teachers, the complexity is captured in the teaching episodes where each of these categories is deemed to be of value and as such, presents a competing intent. The teachers need to determine how to prioritize or weight them, or manage the dilemmas, in order to act. Attempting to do this is assumed with a great sense of responsibility, as the participants expressed “concern”, “worry”, and “fear” over not making appropriate decisions on behalf of their students.

This description of the considerations of teachers when deliberating their next actions expands on Labaree’s (2000) earlier comment exemplifying how difficult teaching practices can appear to look “easy” to those outside of teaching. Overt actions of teachers may appear “easy” because all that is observed are the actions themselves, without knowledge of the
considerations that have been taken into account, or without any regard for the complexity of the deliberations behind those actions. For example, "instructional pacing" can appear to be simply the amount of time allocated to teach a curricular area, rather than the challenging task of managing the dilemmas associated with lesson momentum vs. student connections vs. time constraints.

At best, an observer may hypothesize about the type of deliberations that might have occurred, however, without intimate knowledge of the particulars of the classroom, (i.e. "student needs", "class dynamics") he/she cannot grasp the entire complexity of the deliberations, nor the teacher's deliberative processes behind those overt actions. The intent of my second research question was to probe these deliberative processes of teachers, and the data on this aspect will be reported in the next chapter.
5. How Teachers Conceptualize their Deliberations About Their Teaching

Introduction to Chapter

As reported in the last chapter, I gave verbal prompts to the participants during the think-alouds to encourage them to expand their answers about what considerations they take into account as they deliberate their actions in the classroom. This data uncovered “why” they did what they did, and were described and explained in chapter four. I was also interested, however, in exploring “how” they decided on their actions in the classroom, as evident in my second research question: How do teachers conceptualize their deliberations about their teaching? This chapter will concern itself with reporting on and interpreting the data that emanated from this question.

Teachers’ Notions of “Practical Judgement”

When first asked “how” they made their decision at a particular moment on the videotaped lesson, the participants quickly responded with comments such as “on the fly,” or “by the seat of my pants.” However, and perhaps most interestingly, after a few moments of reflection on this question, participants made reference to a concept that described their deliberations in the classroom.

Participants made reference to some type of judgement or intuition, on which they relied, as they made decisions in their teaching. Specifically, Heather referred to her “practical sense”; Kevin stated he depended on his teaching “intuition”; and Donna made comments regarding her “gut feeling.” Regardless of the term the participants offered, their explanations of these individual constructs had some striking similarities, most notably, the role that they
felt their teaching experience played in the development of this capacity. The following quotes show each participant’s reference to their own unique term, as well as their perception of the critical role of their teaching experience in the development of the construct.

Heather stated:

See, there is that “practical sense,”... that’s what I mean by experience, is practical experience. Your hands-on experience, and that, that plays a big part.

So I would say my practical experience or practices in the classroom, have really influenced where I’ve come to... My experiences as a teacher.

Donna explained:

When I’m not sure, because there are always these grey areas, that I just kind of have to make a decision... that I kind of go with my gut, what I think makes the most sense.

My experience teaching other students, or experiences with those same students, in seeing, you know, what’s happened, or how they’ve interacted with certain people before.

I think I have more to go on now, because I’ve taught grade ones to grade sevens. So, yeah, I have more experience myself with teaching but the different kids that I’ve taught, so the different personalities, and, I don’t know. You’ve seen more things happen, right? You haven’t, it’s not like you have never taught and you’re going on theory, and then you wouldn’t have all those Bens pop up with ‘how you could heat a space shuttle, with whatever kind of fuel,’ you know, those kinds of things. So, the more things have happened to you, the more things you are ready to adapt to, or react to.
Then I have to go with my gut and try to explain it in a way that will help them to understand it.

Kevin explains his understanding of how his past teaching experience contributed to his “teaching intuition” in this way:

I think that the experience part of it, I think that is really intuitively on my teaching part. I think a lot of it has to do with, as a teacher, especially as you kind of work through, and gain experience, I think you have a lot of intuitions about what works, um, what will probably work, what might be valuable, and you kind of pick and choose, because you have that intuition, that kind of professional, kind of, what you gain, your understandings.

At first I think I wasn’t aware of it. I think my understanding was, if I do this lesson, and focus on these things, it will be okay. And if I do it next year, (laughter) it will be okay again. And, and, I missed the boat on that, and it came slowly, just because from experience of it bombing. Oh, geeze, missed the mark this time, wonder why? And, and, uh, it was through experience that I learned that.

It is also noteworthy that as the participants continued to articulate their understanding of their construct, Heather and Kevin independently began substituting the words “judgement” and “judgement call” for their earlier terms of “practical sense” and “intuition.” For example, Heather said:

I think that experience would have to play a big part in that. Because how would you make that judgement call if you don’t have the experience to fall back on? Like, what is it, what steps do you classify or recognize to make
that judgement call? So, one of those criteria would be, those students. Would they be able to use it, understand it, is it going to meet their needs? Another criteria might be, is it meeting my needs as a teacher, um, to teach what I need to teach? But, I'm sure there are other variables in there that fall under....you can't make that decision until you have some experience. If you come in green, I think the outcome would be very different from an experienced teacher, you know.

That's the, that's where, I think, the judgement comes of, how much, how valuable, is this to your students?

Following these interviews with Heather and Kevin, I was curious to see if Donna would also use the term “judgement” during her think aloud sessions. Donna mentioned “gut feeling” numerous times during one think-aloud, but then at one point, she almost sounded self-conscious about her choice of the term, stating:

(laughter) All this talk about my gut! (laughter) Just kidding!

After Donna’s nervous laughter with respect to her own responses, I sensed that Donna was feeling uneasy with her own choice of the term, “gut”, however, she kept repeating it as she continued to explain the construct. I surmised that perhaps she was at a loss of words for a comparative term at the time, so I decided to offer the term “judgement,” as provided by the first two participants, to see if it was a suitable alternative term for her:

Researcher: You've also kind of touched on, I think, the judgement, like I use the word judgement, you use the word gut...
At this point, Donna enthusiastically interrupted me with:

Yeah, yeah, that totally fits! You need to use your judgment about how to deal with what is in front of you, what’s going on, are they getting it, are they not? Or, are they misbehaving, like management, right? You have to use your judgment. Is it bad enough that you need to send someone out? That, is that going to help the other ones learn more? Or is that going to have one kid not learn? (laughter) Like, it’s constant, using your judgement.

I felt assured by Donna’s enthusiastic, immediate response, that she found the term “judgement” helpful in describing her experience, as she immediately went on to list some examples of how she feels she “constantly” uses her “judgement” in her classroom:

Where to place kids, (laughter) making a seating plan, looking at their personalities and putting them in groups, or having them, you know, say answers, when to get them to speak, or when to know they will be embarrassed to speak or give an answer.

In terms of general behaviour, absolutely!

In term of their placement and where they are, and asking them to do things or not, is dependent on their personalities and the other personalities in the room. To know if they are going to feel inferior, or, embarrassed, or they’re not going to get along, you know, just knowing their personalities in that way.

All the time. To have them doing things with each other or to have them do things in front of people.
Due to the other two participants independently using the term judgment, and from Donna's positive reaction to the term, for the purpose of this study, I will use the term teachers' "practical judgment" as an umbrella term for the teachers' descriptions of their deliberations.

Cultivation of Practical Judgment

It was also very interesting that each of the participants independently reflected on how their "practical judgement" (intuition, sense, feeling) came about, without any prompting from the researcher. They all made mention that they started to develop this capacity early on in their teaching careers, "out of necessity", due to the realities of classroom life. For example, Heather said:

*When you come out of university and you've got all those theories in your head, and you're given out of a textbook what is going to work, it's a different ball game when you walk into a classroom and you look at it from a practical aspect and you learn fast what works and doesn't work. And I think you start to form your own opinions in maybe your first or second year of what philosophies you really believe in, because what you just finished learning all those years in university, you realize what really holds true, and what doesn't in this new world that you have - that's the classroom.*

Heather feels that the "practical aspects" of the classroom necessitated her to "learn fast". She also believes her understandings to "hold true" in the classroom, and that they have become integral to her practical judgement. The other two participants recounted their pre-service and early teaching days, without any prompting by the researcher, as they tried to explain when and how their "practical judgment" first started to
evolve. Kevin, a quiet, soft-spoken man, painted this vivid recollection of this pre-service experience, from over fifteen years ago, in this way:

I think, I remember experiences when I first started teaching, even before I started teaching, when I was doing my Education degree. And, I remember trying to put units together, or lessons together, and model lessons, and watching model lessons for the people I went to school with. I think right from there I realized that there were some people better at it than I was. And I found myself as one, that you know what? I had to work really hard. I had to really go through things, and even at that I thought ooh, I (laughter) blew this one. Where there were people in my class, in the strategies, and teaching strategies, and making units and they would come up with units and I thought, ‘Wow! What did you do? How did you come up with that?’ I remember talking to them about it and it was like, “Well, you know, I just thought do this, and I thought this, I thought that.” And that’s the intuition part that I thought, “Oh my God, I don’t have that!” And this person did. And they had a real gifted understanding of what the work was about, but not only that, but a real understanding of the people that they were teaching, too. That they had this intuition, or beginning of this intuition where I found myself, “Wow, I didn’t even think about that.” And, I was really conscious of that even before I actually was in front of a class, teaching, as a teacher. And, as a beginning teacher, and working with experienced teachers, and having an opportunity teaching with them, or observing them, or anything like that, it was always eye-opening for me, to see that, intuition, or if something wasn’t working, how they would say okay, this isn’t working, so I’ll, it was almost like... My understanding at first of teaching was, okay, this unit with this lesson this year, and I’m gonna do it next year because it worked this year. And I guess, foolhardened thinking it’s going to work all the time. Whereas, this didn’t work with this particular group of students because, and I was quite surprised. And then, you, as went on, and as you gained experience,... it was almost like you didn’t even have to think about this lesson. Although it worked for this group of students, my intuition is telling me, because of my experience, and I know who the
students are, and I know who this other group of students are, and their skills set, or their understanding of things, that you know what? My intuition is telling me that if I do this lesson exactly as I did it last year, it's going to bomb. So, this is what I need to do so that these concepts that I want to teach, will make sense for these kids. And I guess it's not only knowing the curriculum, the actual, that's a given, I mean, when you teach something you need to be aware of that. But it's being aware of the audience, like who the students are and what you can implement, the way, conceptually what the best way is to, for the lesson, what strategies would work for that particular class.

I offer this quote in its entirety because it is filled with numerous insights into Kevin's understanding of the development of his "teaching intuition." First, he describes the development of his intuition from his pre-service days, (when he felt a lack of awareness of what would work with certain students) to his early teaching days, (when he believed there were certain units and plans that could work regardless of classroom variables) to his present day teaching (whereby he understands his classroom decisions to take account such aspects as student factors, his knowledge of the curriculum, as well as a repertoire of strategies).

Kevin also makes the point that, in retrospect, he feels it was "foolhardy" to once believe that successful teaching was dependent on well-conceived lessons and/or materials, without any consideration as to who the students were. He emphasizes that through trial and error, he learned to appreciate the importance of taking "student factors" into account, when deciding what "would work for that particular class." He continued:

Well, I think, I think as beginning teachers, my ideas—maybe what we call intuition, or being aware of all that's around us, especially with the students
that are in front of us, I think that I was often oblivious to that, or wasn’t reading the signals from them. And, where others that I saw when I observed them in the schools, I think, have that ability or have that kind of being aware of what was going on.

He elaborated in this way:

*I think maybe, I was...I think I was more worried about the actual lesson, that part, the nuts and bolts of it. I wasn’t aware of all the other aspects of it. I was so focused on to get through this lesson and what questions to ask, what activities should I do, and I think I was so focused on that, that I was oblivious to that other part of who the audience was and I wasn’t really paying attention to that, and that it was key.*

In these quotes, Kevin shows that he understands his teaching intuition to include a level of awareness, and that, in hindsight, he realizes that one of the things that he was not aware of, or, was “oblivious” to, when he started teaching, was “who the audience was.” Now, with teaching experience he has learned not only to pay attention to the “student factors” but has come to appreciate them as “key” to his teaching. He also understands these “student factors” as a main contributor to the unpredictability of teaching because, “you don’t know if a strategy will work with one particular class or not.” He has come to understand that there can be no certitude in the outcomes of any given lesson, regardless of the strength of the lesson itself, due to the uncertainty of “who the students are”, and to think otherwise, as he did before he gained classroom experience, was “foolhardy.”

Donna picks up on this same theme, highlighting the unpredictability of teaching a group of learners. In this excerpt she makes reference to a PE methods course:
Because there's predictable and unpredictable situations and then you add in a piece of equipment and it gets more unpredictable or you can take that away and just have a person and you're working alone and it's more predictable. So, it's just a level of difficulty. So, anytime you have any kind of interaction, if I wasn't doing just a lecture-which I wouldn't do-it increases the unpredictability, right? So, the whole teaching situation is unpredictable, so if you have two kids in front of you, it doesn't matter their backgrounds, they're going to be different in some way, you have to be ready to react to them. But if you have twenty-one in front of you, with twenty-one different backgrounds, it's like ping pong balls flying around and you have to be ready to know which one to catch, or try to know which ones to catch, which ones to stop, (laughter) which one to go with, and hope that most of them will learn something.

Here, Donna points out the complexity of trying to be responsive to groups of learners as the teacher needs to "be ready to react" and also to "be ready to know which one" (action) to make. However, it is more than the mere numbers of individual students that cause the uncertainty, it is also the interactions in the classroom that also add another layer of unpredictability. This crucial variable of "class dynamics" was reiterated again and again by the participants throughout their think-alouds:

Yeah. The dynamics of the class is huge. A huge impact, individual needs, um, capabilities are a huge variable. So, if every class was the same, you could do it with every class. (Donna)

And I think that as teachers, we don't have it in the bag, all the time, you know, ... And I think it's just because, it's about human dynamics and being people, things
aren't the same, (laughter) and we share ourselves daily and there's things we haven't seen before. (Kevin)

I think. I think it's just the way classroom exists. (Heather)

Further, these human dynamics creates uncertainty that requires them to be “ready” to make decisions instantaneously. Heather points out that due to this uncertainty, it is impossible to have a “script” for teaching any lesson.

I am not following any script here. ..... Like, these are just different teaching strategies, different activities that I have in my little file of teaching strategies that I know work. That have worked in the past and the kids are familiar with.

You stumble on stuff, and you don't know what to say, and you have to, it is a risk and you don't have a script to follow, so you are kind of making up your own script.

Heather believes that to “make up your own script” requires you to be aware of who your students are, and “be ready to change things that aren't working,” largely depending on how the dynamics unfold.

And, you need to be flexible and open-minded and I think a lot of everything about teaching stems from creativity. You have to be creative. You have to have creativity and flexibility. They are pretty close, because if you are not creative and flexible, if something doesn't work you're not going to change it to make it work., You have to, you're changing things as you go. I'm always, I notice with my teaching that I 'm always checking in with my kids, like on a gauge to see if they are buying it, if they are using it, are they paying
attention? Are they on task? Are they following instructions? Are they using criteria? And if you are not on top of things in that way, I don’t know if that’s classified creativity or not, but flexibility. If you are not flexible, then you can’t do all those things. You are doing so many things on one level, ... there are so many things going on, that I don’t know how you can teach without those skills. Honestly.

“So many things going on” was a resounding subject for the participants throughout the think-alouds and follow-up interviews, referring to how the dynamic nature of the classroom creates complex decisions for teachers. As there can be no predetermined “scripts” for exactly how a lesson will unfold, these teachers say they need to be attuned to “everything going on around them” in order to coordinate a lesson, relying on their judgement to act, and then relying on it again, to make changes to their lessons, if they feel the need to.

**Teachers’ Practical Judgment: A Phronetic Interpretation**

Originally the participants explained their practice in terms of their reliance on “judgment”, “intuition”, or “gut feeling. Shortly thereafter, two of the participants substituted their original terms with “judgment” and “practical judgment” and the third indicated that the term “practical judgement” resonated with her, when it was offered during an interview.

All three participants said they came to the realization that they needed to develop this capacity early on in their careers, out of ‘necessity’ as it were, because they did not get the intended results when they directly applied “theories” they had learned in pre-service teacher education. They did not, however, attribute this discrepancy to about the quality of
their pre-service experiences, but rather to the qualities of classroom life itself, or as one participant put it, “the way the classroom exists.”

One key characteristic of the “way” the classroom is its unpredictability. Aristotle pointed out that due to the unpredictability of practical life, no one can positively foresee which general knowledge, rules or principles will need to be implemented in a particular situation. This is so because practical life involves particular cases and...

Once we descend to particular cases of dealing with this or that, we are no longer securely within governance of the techne, which is always limited to general rules (Dunne, p. 259).

Being no longer securely within the governance of the techne, but requiring action, phronesis must contain the ability to combine a general knowledge with a particular knowledge of concrete situations (Saugstad, 2002). While this idea was introduced in a previous chapter, a key question remains, namely, how do individuals determine how to connect the general and the particular?

Aristotle proposes a theory about this deliberation. Practical reasoning, by definition, needs to include action to be practical and the “now” premises make the practical reasoning practical. As such, the “now” premises are the ultimate premises in the workings of practical reasoning (Saugstad, 2002). The participants in this study reiterated that their actions in the classroom were clearly dependent on what is in front of them at any given moment, highlighting the “now” particulars as the critical considerations of their deliberations. These “now” premises are further intensified by the immediacy that their actions often require.

Furthermore, according to phronesis, “appropriate actions cannot be reasoned deductively from these ultimate ‘now’ premises” (Dunne, 1993, p. 296). Instead, they are
said to “apprehend non-syllogistically” (Dunne, 1993, p. 307), that is to say, not following a clear, deductive, logical syllogism. The participants first described their practical judgement using terms such as, “gut feeling,” and “intuition”, signifying that the teachers do not understand their deliberations and decisions in terms of deduction (i.e. by way of a syllogism). Instead, they rely on their ability to discern the key “now” premises, that is, the particulars, upon which they need to focus. They also stated that discerning those key premises, is not easy, given the multitude of variables in a classroom.

Dunne (1993) suggests that perhaps the hardest thing about phronesis, “is just being able to see what is really significant in different situations” (p. 308). Kevin stated that he did not recognize “student factors” in his lesson plans earlier on in his teaching career, instead concentrating on specific curricular objectives. Now, he explained that not only does he bear student factors in mind, when planning his lessons, but that he believes they are “key” to his practice. Donna talked about how teaching various grades, from 2-7, had given her a “wider basis” from which to draw. As well, each of the participants talked about how they had only come to understand the importance of lesson “momentum” and the possible unfavorable consequences, if they ignored it.

A crucial point, then, is that because of the multitude of variables in the classroom setting, there is a need to develop the ability to discern which particulars (or “now” premises) are most pressing at any given time and the participants believe that they had only come to discern what particulars in the dynamic classroom settings were significant, over time, with teaching experience.
Experience and Practical Judgment

The participants felt strongly that, in large part, their practical judgment developed through classroom teaching experience, which concurs with Aristotle, who wrote about the critical role of experience in phronesis. Aristotle posited that having practical experiences meant individuals were exposed to a wide variety of particulars in real life settings. As individuals are exposed to various practical situations, they use a trial and error process, through which they begin to see similarities and patterns, causes and effects, and consequences of their actions. The individuals store these into their memory and call upon them for future reference.

Dreyfus and Dreyfus’ (1986) work delineated in an earlier chapter extends the conversation by offering some theories about the role of experience on performance. They suggest that experience does not involve just an accumulation of cases, but provides an individual with intimate knowledge of concrete cases, by way of good examples. An experienced person’s perspective allows certain features of the situation to “stand out as salient, and others will recede into the background and be ignored” (Dreyfus & Dreyfus, 1986, p.28) and contributes to the development of intuition and judgement. Individuals use this intuition and judgment to “remember similar situations, with key similar features, and anticipate possible outcomes and possible action plans to make their choice of decisions” (Flyvbjerg, 2001, p. 16).

Their propositions fit with the participants of this study who felt that that their practical experience enables them to be more adept at discerning particulars that are significant in a situation, for example, “student engagement.” Further, they said it helps them act “on the fly” or, in Dreyfus and Dreyfus terms, “think on their feet.” This issue
of timely manner is critical, especially owing to the prime importance the participants place on "lesson momentum" in their teaching performance.

Dreyfus and Dreyfus (1986) suggest that over time, individuals move from rule-based, context independent reasoning, to increasingly experience-based, situational appreciation. The implication is that context becomes more and more important with experience. Stated in phronetic terms, a main difference between experienced and inexperienced individuals is that experienced practitioners give priority to the particulars, in order to make sense of the situation before them in deliberating their actions, while less experienced practitioners may typically give priority to generalities. (Which make sense, because that is all they have to go on.)

Consequently, their theory suggests that practical experience is more than just the accumulation of examples, as it relies on intuitive judgment that is not baseless, but rather, is grounded in experience with similar cases with similar key features. Again, their theory seems to resonate with the participants’ understanding of the critical role of their intuition that is based on their classroom experience. Further, Dreyfus and Dreyfus’ work also suggests that intuitive judgment of experienced individuals is “at least as important as analysis, rationality and rules” (Flyvbjerg, 2001, p. 24).

**Perceived Role of Theory in Practical Judgement**

Given that the participants had not mentioned any theoretical bases as they articulated the reasoning behind their actions in the classroom, I was curious as to whether or not the participants believed if and how any theories inform their “practical
judgements” in the classroom. During follow-up interviews, I asked the participants this question. Heather had many things to say on this topic:

*I don’t know. That’s a funny one. Because it almost seems that theories almost exist in their own world and they have nothing to do with teaching. (laughter) Some of them. They are so bizarre. ... And there’s different forms of learning. And the learning may come mostly at the end, or it may come in the middle somewhere... and so the theory that I, that has influenced me in my practices I think, is really linked with how I look at classroom teaching.*

*But there are some theories out there that I don’t hold much reverence for, I guess, because you know, as a TOC you flounder through.*

*I don’t know if the theory influences me, or I influence my practices, which influence what I choose to believe in. Like, and I guess that would hold differently for every teacher, because my values and the way I teach would be different from another teacher and so the theories that I am drawn to would be different from teacher B, right? So, I don’t know, it’s the egg and chicken thing. Is it the chicken or the egg that comes first? Is it the theory that drives my teaching or is my teaching that drives which theories I choose to reinforce?*

*Um, I think, um, theory can be twisted in so many ways. To make it work for you and, I don’t know. I think practicality, um, practical experience, putting things into practice in the classroom... holds more water than theory.*

Donna was the one participant who made mention of a theory, specifically, child development theory:

*... you have to know basically, like, what to expect from people, in terms of their age and their abilities, and have some sort of guidelines. Like I wouldn’t choose that particular lesson for someone who is, say in Kindergarten,*
(laughter) right? The way they are, their personalities and the way they react to things, or readiness.

However, she summed up her with:

_Theory is in there, but I think at the moment, your gut goes with it, your experiences, and who's in front of you at the time when the situation is...And what exactly is going on..._

It appears that while these teachers believe that some theories they have studied may play a role, (most notably child development) they do not believe that "theory" is as important in determining their actions in the classroom as their own practical judgement, because their judgement takes into account the particulars of the context, and relies on their past classroom experience, which has told them "what works" and "what doesn't."

In Heather's words, her practical judgement "holds more water" than theory. Heather goes on to say:

_Theories almost exist in their own world and they have nothing to do with teaching. (laughter)_

This comment seems to question the validity and/or reliability of "theories" in her practical world. While Heather agrees with Aristotle's proposition that practical judgment is a separate type of knowing in its own right, and not simply the application of techne knowledge, her ideas differ in that she does not seem to recognize any role that generalities play on her teaching.

Heather adds her perspective on the role of "theorists", as well:

_Some of these guys, [theorists] you wonder if they even step into a classroom ! (laughter)_
We can infer that she believes that having techne does not mean you have the ability to act (Saugstad, 2002) and in phronetic terms, she agrees with the statement:

What makes knowledge theoretically powerful does not coincide with what makes it practically effective (Dunne, 1993, p. 282).

As practitioners, teachers are concerned with what is practically effective, given the particulars of the “now” premises before them. Theories can be powerful, but unless they can be found to be not just relevant, but also appropriate, given the “now” premises of the practitioners’ context, they may be reduced to being viewed as insignificant, or even redundant.

It is apparent that Heather agrees with the premise that techne alone is not sufficient for human interactions such as teaching (Eisner & Jacks, 2002). According to Aristotle, this is true because techne is not mainly concerned with actions (Dunne, 1993). Conversely, the function of practical judgment is to govern action. As the main purpose is to guide practice, it is concerned with connecting generalizations with particularities of the situation, in order to act appropriately to that situation. Therefore, practical judgment and theoretical knowledge are qualitatively different, and need to be, because practice is mutable, indeterminate and particular (Nussbaum, 2001). Indeed, if these characteristics were not true of practice, then a general principle would be available, and there would be no reason for practical knowledge (Dunne 1993, p. 312).

While the teachers in this study could be said to be in agreement with Aristotle’s position that practical judgment involves a separate, unique type of knowledge, and this knowledge places a priority on the particular, they differ from Aristotle in that they do not
appear to give any concerted attention to the role of generalities (theories) in their deliberations regarding their actions in the classrooms. Instead, the data seem to show that the participants conceive of “theories” as separate entities divided from their practical worlds, and educational theorists as out of touch with teachers’ practical work.

However, it is extremely interesting to note that the participants in this study can be heard shifting back and forth from the particulars of the situation to general theories throughout their think-alouds. (In actual fact, this shifting took place literally with every line in a transcript provided in chapter four.) It was suggested that Donna was drawing on a wide variety of generalities (theories) including child psychology, second language instruction, gifted learners instruction, as well as general pedagogy, even in the short teaching excerpt that was provided. Yet, all of the participants (with the one exception of Donna, who made a single reference to child development theories) seemed oblivious to their reference to these generalities. This begs the question, ‘why?’

The following quote of Kevin may hint at a possible theory:

Yeah, I think, um, if a strategy didn’t work and I thought it was going to, and it bombed for one lesson. If I have the intuition of ‘I think this is a valuable strategy’, I think I would, in my mind, I would be thinking okay, I’m not going to abandon this. Like, I’m just not going to push it aside as a strategy, I would say, okay, well, maybe this strategy didn’t fit the audience, for the students, but I still have it as one of my tools in my kit. And, if it made sense, I might try it with this group again, if I think that they, I might think about it twice, if I was going to try it with the same students, but if I had another group of students, and I thought that okay, I think they can go with this, I think they will get something out of it, then I would pull it out of my tool kit. But, I wouldn’t totally abandon it.
This quote is intriguing because it shows that Kevin has elevated the status of his teaching “intuition” above his current classroom experience, even though he previously stated that his “intuition” is largely dependent on his past classroom experiences. His comment can be interpreted to mean that his practical judgement can be so prominent in his deliberations, that it can actually override a present unsuccessful teaching experience. Perhaps his response indicates that a teacher’s practical judgment inductively creates its own generalities of teaching, (theories) based on “what has worked.” Further, these generalities need to be organized in such a way that they can be accessed directly and efficiently by the teacher, in response to immediate requirements, which could suggest a schemata that is so personalized, that there is a blurring between related general theories and individuals’ experiences with particulars. In a sense, general theories are absorbed into their practical knowledge and are used to inform their practical judgement in such a seamless way, that, over time, teachers have a hard time distinguishing between general theories and their own practical judgments.

We can further infer that this inability to discriminate between the two sources may be because practitioners’ main concern is determining/enacting appropriate action, and as such, distinguishing between general theories and particular experiences is irrelevant to their task at hand of determining appropriate action. Stated differently, no energy is expended on distinguishing between the two, because while choosing their subsequent actions are important, determining the source is not. Paradoxically, then, when teachers are speaking about their practice, they may perceive educational theories as separate from their practical judgment, while in actual fact, they may be practically reliant on them.
Relationship Between Experience and the Moral

As discussed in an earlier chapter, the think-alouds allowed me to hear the participants’ deliberations, which were repeatedly concerned with striving for actions that they deem to be in the best interest of their students, while being mindful of the means and the ends. As such, it can be said that the moral is imbedded in these participants’ practice.

Aristotle contends that a relationship exists between the moral and experience. He posited that the more one acts with phronesis, the more one develops intuitions or insights which further develop ones’ capacity for acting correctly in situations. In keeping with this argument, then, purposive, responsive teaching generates even more purposive, responsive teaching and this cycle can continue when classroom ‘moments’ are viewed as opportunities for finding the means to be responsive to their students, while keeping the end purposes in view.

The data from this study are full of such ‘moments’. For instance, in the word map lesson described earlier, Kevin’s changes to his lesson plan came about because he was “attuned” to the fact that his students were about to lose interest in the present activity. This insight influenced his decision of jumping ahead to the key concepts of the lesson, and could be considered a “moment of adjustment.” Another example was when Donna chose to forgo her lesson altogether, because she was worried about confusing her students’ tentative notions about inferencing; the second she decided to act in this way might aptly be termed a “moment of abandonment.”

This “moment of adjustment” and “moment of abandonment” are prime examples of the teachers finding means to be responsive to their students, while keeping their end purposes in view. Further, from this way of thinking, perhaps it can be extrapolated that the
“momentum” to which the teachers made constant reference in their think-alouds, can be conceived of in terms of separate, situated, “moments” that present teachers with opportunities to be responsive and purposive in their actions (or, conversely, non-purposive and unresponsive).

These examples also illustrate the relationship between experience and the moral. Kevin was attuned to the level of engagement of his students, because, through experience, he understood the importance of developing this capacity for effective instruction, which further gave him the insight to find ways to be attuned to the level of engagement of his students. Donna’s decision to abandon her planned lesson was based on her experience which had taught her the importance of determining her students’ level of connections as she taught, (rather than, for example, at the conclusion of a lesson, with a summative assessment) which further developed her predisposition to implement ways to gain feedback regarding her students’ understandings during her lessons. In this way, the relationship between the moral and their experience enables individuals correct insights, or, according to Aristotle, the “eye of the soul” (Dunne, 1993, p. 302) and helps them to further develop the virtues of phronesis. In the two examples given, it might be said, that Kevin’s capacity for being attuned to his students, became “fine-tuned” and Donna’s capacity for being open to student feedback became “widened.”

This idea complements the work of Dreyfus and Dreyfus who propose that experience amounts to more than an accumulation of exemplars over time and that experienced individuals rely more on key situational particulars than on general rules. Experienced judgement involves “intuitive judgments”, which allows prompt, effective responses from the individual, in part, because of their ability to discern on which particulars to focus. Perhaps
most salient for the purpose of this study, these "heightened sensitivities" (i.e. attunement, openness) and "intuitive judgments" of the teachers will influence their immediate actions in the classrooms, as well as future deliberations, and will be integrated into their practical judgement which will affect the learning experiences of our children.
6. Discussion and Possible Implications

Introduction to Chapter

This chapter will begin by using the insights gained from this study to attempt to describe the nature of teachers’ practical judgment. Following this description, three reasons why teachers do not discuss this integral aspect of their practice will be proposed, and some difficulties related to accessing it will be discussed. The second half of the chapter will concern itself with some possible implications for recognizing and valuing the concept of teachers’ practical judgment for teachers themselves, for pre-service teacher education programs, for educational policies and for conceptions of teaching. The chapter will conclude by suggesting some areas for further study, as well as advocating some first steps, or rather, “leaps”, in a new direction.

On the Nature of Teachers’ Practical Judgement

Teachers in this study began their teaching careers with intentions (i.e. curricular goals, which are understood to be in the best interest of their students) in mind. However, they experienced dissonance when they realized they couldn’t simply apply general theories towards those purposive intentions, due to the unpredictable and uncertain nature of the classroom. As such, they came to understand the need to develop a capacity to know how to act appropriately in different classroom situations, oriented towards those intentions.

I have proposed the term “teachers’ practical judgment” as a term that encapsulates this capacity, and have provided empirical evidence from the current study,
as well as theoretical arguments for understanding it to include numerous key aspects of Aristotle’s phronesis. Specifically, this capacity is concerned with actions that are imbued with the moral, (i.e. concerned with actions that they deem to be in the best interest of their students) and are simultaneously concerned with means and ends. Their actions can be said to involve placing a priority of the particulars of cases over the general. With teaching experience, they are able to discern which variables are significant in situations (i.e. what considerations they need to take into account) and how to correctly reason how to connect the particular with the general, in order to conclude which appropriate action(s) to take.

It was suggested that the participants understand ‘appropriate’ actions by orienting themselves to *purposive* ends, while constantly deliberating to find ways to be simultaneously *responsive* to their students. Striving to be simultaneously responsive and purposive is shown to be a highly complex endeavour, as it requires discerning what is significant in each situation, as well as reasoning between these significant particulars and general theories; these deliberations are further complicated by dilemmas of competing intents, (i.e. individual vs. group needs; curricular timelines vs. meaningful connections) and further intensified by the need for “immediacy” of their actions.

A key contention is that teachers’ practical judgment develops through teaching experience. Experience provides more than an accumulation of examples, or a wider repertoire of cases. Instead, an individual develops intuitive insight that focuses on particulars instead of general theories and moves from more rule-based to more situational particulars. The relationship between experience and the moral suggests that over time, striving to teach purposively and responsively results in a predisposition to approach
future moments as opportunities to become more so, which heightens sensitivities resulting in insights which further informs their practical judgment (i.e. knowing how to accurately determine lesson momentum, read the classroom, and assess student attention/engagement/connections).

This study suggests that teachers' use their practical judgment to act purposively and responsively amongst competing intents, at an unrelenting pace in the uncertain context of the classroom setting. Further, this capacity is not supplementary to their practice, but is understood by the teachers to be an integral aspect of their daily work-in fact, they often rely on it, on a minute-by-minute basis. Once given the chance to reflect on this concept, it resonates strongly with their experiences in the classroom and they speak about it in intimate terms. As such, teachers' practical judgment strongly influences the types of student learning experiences students and, as such, is worthy of study.

Lack of Language, Opportunities and Space

While the data from this study demonstrate that the participants understand their "practical judgment" to be integral to their practice, they have not/do not appear to discuss this capacity amongst themselves, or in other spaces. Three possible explanations will be given.

First, the teachers don't have the language with which to talk about their "practical judgment". Two participants in this study first used terms such as "intuition" and "practical experience" to try to describe this aspect of their work, while the third was almost apologetic with her choice of the phrase, "gut feeling." After a very short time of trying to orally describe this construct, however, the first two teachers changed their
terms to "judgement." As pointed out in the study, when the third participant was offered the term "judgement," during the follow up interview, it immediately resonated with her, and she instantly started to list of a number of things that she felt she constantly made judgments about, such as, which students to call on, and asking a student to leave the classroom. This suggests that "practical judgment" is a term worthy of consideration as a starting place for a rich dialogue amongst educators.

This brings me to a second possible reason why teachers don’t typically discuss their practical judgment, and that is because they believe it is not valued in the current technical rational discourse in which they find themselves. More precisely, they may be uneasy about surfacing this topic because their practical judgment may be dismissed as being groundless, or baseless. Perhaps they are apprehensive about talking about their practical "insights" and/or "intuitions" because these accounts will be construed to be “unsubstantiated” or “unproven.” This is where the current research study, which draws on the theoretical framework of Aristotle's phronesis, and to a lesser extent, Dreyfus and Dreyfus’ work, may prove helpful.

Aristotle suggests that non-syllogistic reasoning is not a weakness, but rather a necessity, due to the limitations of simply applying techne in practical situations, because the particulars must be revealed before the individual can determine appropriate actions. Appropriate action is concerned with the both the means and ends, and actions striving towards both of these heightens sensitivities which provides insights and allows correct reasoning as to which actions they should take. Extending this interpretation to Dreyfus and Dreyfus’ work, they suggest how an experienced performer relies not so much on an accumulation of cases, (as this would tax their memory and slow down performance,) but
more on an ability to allow key features of past cases to stand out, providing them with good predictive skills that informs their “intuitive reasoning.” Experienced practitioners, then, can be said to rely less on general guidelines and more on particulars of situations.

As such, experienced teachers’ practical judgment involves reading situations differently, or in Dunne’s (1993) words “knowing what is significant” (p. 308). From this unique vantage point, they are able to deliberate about their actions and focus on being simultaneously purposive and responsive to their students. Further, according to Aristotle, having a predisposition that is purposive and responsive orients them to becoming more so, which results in more acute discernment in their reasoning in future teaching situations. Aristotle’s phronesis offers a reasonable explanation for the empirical data gathered from the participants in this study and provides persuasive arguments for the recognition of teachers’ practical judgment as a valid, necessary and unique way of knowing how to act, in the face of the uncertainty of the classroom context.

A third possible reason that teachers have not discussed their practical judgment may be the lack of opportunities for them to do so. This may simply have to do with the lack of collaborative opportunities amongst teachers. Even if given “release time” from their classrooms to collaborate, the question becomes, under what circumstances would the topic of practical judgment surface, in order to be discussed in a meaningful way? With administrators and district level staff pressured to collect more and more standardized data under the “accountamania” discussed earlier, it is highly unlikely that they would find and/or allocate resources for teachers to discuss their practical judgment. And, ironically, practitioners may be so concerned with being practical themselves, that they have not given themselves permission to use any available time to discuss it.
Gaining Access to Teachers' Practical Judgement

This study was able to access the participants' understandings of their practical judgment using videotaping of their teaching, along with think-alouds to explain their thinking at the time. Even though the think-alouds occurred after the lessons, because the videotaped lessons were imbedded in the teachers' practice, they appeared to be useful recall stimuli for the participants. As such, I propose that their explanations for their actions, and subsequently their description of their practical judgment, would not have surfaced without the videotaped lessons.

Perhaps this means that practical judgment is so integral to a teacher's practice, that individuals need specific examples, and/or particular classroom considerations brought forward, in order for practitioners to reflect on, and talk about them, in a meaningful way. Conceivably this might only be true for a first session, then once the construct of practical judgment has been identified, it may become easier for teachers to discuss it in future sessions, without the need for specific examples.

Another related question is, do the specific examples need to be from a teacher's own practice, (that is their own classrooms, with their own students) or could they be more generic in nature? Could specific case studies be used to jog teachers' memories to surface the concept of practical judgment? If so, are there certain factors that need to be included in the written case study in order for a teacher to identify enough with the case to surface the topic of their own practical judgement? If so, what are they? Answers to these questions could prove helpful.
Possible Implications of Recognizing and Valuing Teachers’ Practical Judgment

Based on the present study, I propose that recognizing and valuing teachers’ practical judgment would have some significant implications for practicing teachers, professional development, pre-service teacher education programs, educational policies, and conceptions of teaching and teachers’ work.

Implications for Teachers

I suggest that having opportunities to openly acknowledge, express, explore, and value the role of their practical judgment would be liberating for teachers. To be able to talk about their “intuitions,” “hunches,” “gut feelings,” or “insights,” on which they already said they base many of their classroom decisions, would be empowering, and the ensuing dialogue could have important implications.

Initially, as teachers start to think about the deliberations behind their actions, they would begin to verbalize their intents. As they did so, they might become more aware of the moral aspects imbedded in their practice, that they have either taken for granted, or considered as “givens,” because of their overriding concern about the “now” premises. It may be a way, then, of helping to place the moral front and centre in teachers’ work (Van Manen, 1991).

Raising teachers’ awareness in this way could cause them to frame some classroom situations in terms of moral dilemmas of practice (Berlak and Berlak, 1981). Dilemmas, by definition, are not problems to be fixed, but situations to be managed (Cuban, 1992). Reframing their work in terms of moral dilemmas in this way may encourage teachers to take the time to reflect on their choice of actions in a substantive way. This might be best
accomplished away from the overriding “now” premises of their practice, yet still deeply tied to their practice.

Teachers’ “practical judgment,” then, is a construct that could be a means to, as Aristotle recommended, closely scrutinize actions in particular situations for the purpose of judging the appropriateness of those actions. This deliberate “judging of their judgment” as it were, could have profound effects on the teachers’ future actions in the classroom, which in turn, would directly affect the educational experiences of our students. This, I argue, is the location for the impetus for reflective practice, (Schon, 1987) whereby teachers could endeavour to make sense of their actions, with the overall goal of improving student learning. Using a participant’s own words about their students, “This is where the real learning takes place!”

**Implications for Professional Development**

While this “judging of their judgment” could be undertaken introspectively, it is suggested that it might prove even more potent if done collaboratively with other teachers. Teachers having opportunities to articulate their rationales aloud to other teachers may reveal new understandings to all concerned. For example, by articulating their reasoning in a situation, they may become aware of their own constant shifting back and forth from the particulars to the more general, (as depicted in the their think-alouds in this study) resulting in them gaining a new appreciation of the role that general theories have on their judgements. Far from “contrived collegiality” (Hargreaves, 1994), teachers talking about their own choices in instructional actions directly tied to specific classroom particulars could create an open exchange of experiences, resulting in heightened
sensitivities that could influence their immediate actions in the classrooms, as well as their future deliberations.

Ironically, along with the teachers' increased awareness of the embedded moral, may come a fuller realization (perhaps for the first time for some) of the enormous responsibility of their deliberations and subsequent actions in the classroom. With this illumination, some teachers may feel completely overwhelmed with the complexity of deciding on appropriate actions for their students, especially, given the unrelenting pace that decisions must be made. This illumination could cause paralysis in the face of the uncertainty. I submit that professional development focused on teacher collaboration could help support some teachers in this regard, on at least a couple of levels.

On a practical level, colleagues might be able to relate to similar particulars of other teachers' dilemmas, and /or provide alternate options for actions. At this level there may be a suggestion, a “tip” or helpful teaching “strategy” offered from a colleague, which the teacher may choose to adopt in his/her classroom. From my experience as a teacher, dialogues between teachers are typically at this practical level, and are mostly concerned with ways to be “responsive” to their students. These dialogues are deemed to be important and useful by teachers, because they prioritize the “now” premises before them.

Conversely, and again from my experience, collaborative conversations hardly (if ever) involve teachers even mentioning the purpose(s) behind their actions. This is not to say that they don’t have purposes in mind while deliberating on their actions, because the think-alouds in this study demonstrate that they do, but that teachers do not typically surface their purposes in their collaborative dialogues. It is almost as if (just as in the
think-alouds) the purposes are assumed to be “givens”, and as such, don’t even need to be mentioned. Perhaps this is especially true of dialogues between teachers.

Professional development that offers opportunities to surface difficult questions such as, “Do I put up the mark and move on?” could take the dialogue among teachers to another level whereby teachers could surface dilemmas of competing intents, affirm their resolve to specific givens, and provide some renewed direction. This, in turn, could give support to teachers experiencing a sense of overwhelming responsibility. Dialogues between teachers which include articulating their rationales, while detailing what classroom considerations they took into account as they ultimately decided on appropriate action(s) would allow teachers to share the “givens,” and ultimately “judge their judgments.” I propose that dialogues such as these have the potential for endless possibilities for the ongoing development of practice, and is, therefore, a sound basis for an approach to professional development.

Implications for Pre-service Teacher Education Programs

This study suggests that future teachers would first and foremost benefit from a program that acknowledges the inherent uncertainty and unrelenting pace of the classroom context. This concurs with Floden and Clark’s (1988) call for “Preparing Teachers for Uncertainty.” Further, the program needs to stress that while there is value in studying various educational theories, there are definite limitations of simply applying them in dynamic classroom settings. This is due to the fact that all of the uncertainties cannot be taken into account beforehand. As such, there is a need to place a priority on
the particulars at the time, which highlights the need to develop a capacity to judge while those particulars reveal themselves.

While classroom observations are already an important aspect of most pre-service teacher programs, these practicum experiences could be considered from a "practical judgment" vantage point to illustrate the importance of the particular and the role it plays in developing the capacities to judge. Part of observing lessons could involve more than noticing management and teaching strategies, to include attempting to infer the teacher's rationale for their choice of actions. Specifically, student teachers could frame their observations through two questions, (1) to what purpose(s) and (2) what responsiveness is occurring? Afterwards, debriefing sessions could include the student teachers asking their sponsoring teachers these same questions. Their explanations could illuminate some competing intents as well as the complexity of the tacit deliberations behind their actions. Such dialogues would not only benefit the student teacher, but would provide opportunities for sponsor teachers to reflect on their teaching practice in a concerted way. (Which was, as one of the participants stated, a "rare" opportunity that had not happened for him since his practicum.)

Written case studies could be considered in the same way. Instead of being outlined to a point, and then asking the student teacher to consider what he or she would do in a similar situation, the case could be written to include the teacher's actions, and have the student teacher attempt to infer the teacher's purposes and responsiveness. The goal would not be to "correctly" infer the reasoning, but rather, to start to become aware of dilemmas of practice, as well as the complexity of striving to be simultaneously responsive and purposive.
Finally, the data from this study also suggest that future teachers may benefit from experienced teachers’ knowledge of specific classroom variables that they have found to be key in their deliberations. Most notably, the experienced teachers stated ‘student factors’, (including individual needs and group dynamics) as deeply influencing their decisions. As such, pre-service teacher education program experiences should focus on the importance of student-centred learning. Coursework on differentiated instruction could be deemed essential, and practicums could involve compiling case studies on individual learners. Additionally, the significance of “lesson momentum” might be addressed through a course entitled, “Reading the Classroom”, which focuses on means of attaining authentic feedback on student attentiveness/engagement/connections during lessons to inform the next instructional decisions.

**Implications for Educational Policies and Conceptions of Teaching**

A key foundation of all educational policies should include the recognition of the inherently uncertain context of teaching and learning. The reality is that teaching and learning will always be dependent on the particulars of the context. As such, prescribing inflexible, predetermined standardized curricula is, to borrow one participant’s word, “foolhardy.”

However, from the data from this study, one can also infer that educational policymakers shouldn’t be blamed for such misguided mandates, because prior to gaining classroom teaching experience, the participants themselves believed they could simply learn and apply educational generalities towards set learning standards. Once immersed in the
unpredictable classroom setting, however, the participants quickly discovered that there were simply too many considerations to be taken into account for general theories to be uniformly applicable.

Once the inherent uncertainty of context is accepted, there would be a realization of a need for a capacity that cannot rely on syllogistic deductive logic to act. This capacity, or way of knowing, is one that needs to be based on insights gained through practical experience, and is not inferior to deductive logic.

Valuing the capacity for practical reasoning would mean that teachers’ voices would be heard on key factors for classroom learning. For example, the issue of class composition would be viewed as far more than simply an item to be negotiated in a teachers’ contract. It would be understood as a significant variable in the instructional pacing of the teacher that directly affects the learning experiences of each student. As well, large class sizes would be understood not as a complaint about more work, but as a factor that directly affects the teacher’s ability to gauge individual students’ levels of comprehension. Put this way, large class sizes come to be viewed as impediments in the teachers’ ability to be responsive in their teaching. Policymakers wanting to sincerely improve the learning of our students should actively seek out teachers’ insights into what considerations are key in their instructional deliberations and plan accordingly.

**Conflict with Current Standards-Based Context**

The teaching episodes and accompanying think-alouds in this study surfaced some of the tensions participants experience in their practice, including; class momentum
vs. individual needs, curricular time constraints vs. meaningful connections, and means vs. ends of their actions. Aristotle’s phronesis provides a lens through which to view these struggles. From this vantage point, it becomes evident that these struggles exist because teachers place a priority on the particulars, when they are teaching. Stated differently, if teachers did not prioritize the particular, they would only be concerned with the general, meaning they would continue to teach concerned with: class momentum (but not individual student diversity), curricular time constraints (but not meaningful student connections), and long term ends (but not means, which could result in the instrumentalizing of students). This last sentence effectively describes the standards-based contemporary context in B.C. schools that was outlined in the first chapter, whereby general premises and principles of teaching and learning are intended to rule practice and is arguably the source of the main conflict between the current context, and educators opposed to such policies.

Standards-based reforms are concerned with generalities, where not only are particulars not salient, they are all but ignored. Standardization, by definition, means ‘sameness’ and ‘uniformity.’ The only way you can arrive at uniformity in such a variable endeavour as education, is through ignoring the ‘differences’; and when talking about education, ‘differences,’ mean individual students. A standards-based approach cannot, by definition, be responsive, and such an approach, according to the participants in this study, is not appropriate. Further, as pointed out earlier, standardized test results focus on ends only, disregarding the means towards those intended ends, and as such, can be said to dehumanize the learning experience.
Such policies are clearly incongruent with educators who understand the importance of prioritizing the present particulars in order for them to be simultaneously responsive and purposive in their teaching. Also, due to the ever-changing nature of the particulars before them, these ongoing tensions between competing intents will always exist. As such, their deliberations will include asking themselves difficult questions such as, “Should I just put up the mark and go on?” Furthermore, this question (as other such questions) need not only be posed once, to be resolved once and for all, but will need to be recreated every time, because the situational particulars will change every time.

For example, “instructional pacing” needs to be continually gauged to determine its appropriateness given the “now” premises. This tentativeness is not a weakness, but rather a necessity, given all the variability, unpredictability, and uncertainty surrounding the dynamic particulars. This is the indeterminate nature of the complexity of the deliberations behind the overt actions of teachers that may “look easy” (Labaree, 2000) to those outside education.

This level of interpretation of the data, then, shows the discord between the current techno-rational mandates in B.C. and many practicing educators to be essentially a difference of worldviews. The former assumes that the uncertainty in education can be managed through general policies that can be rationally deducted to determine specific teaching that will result in standardized learning. If standardized learning does not result, it is assumed that this can be rectified by tighter controls. The latter group does not privilege educational generalities, but rather prioritizes the particulars, and accepts the inherent differences between these particulars, as well as the related unpredictability and indeterminateness. It can be said that they understand a component of teaching as striving
to find ways of knowing how to act responsively and purposively, in the face of this uncertainty.

From the educators perspective, then, the present standards-based reforms are irresponsible, because not only are they attempting to mandate certainty in an inherently uncertain endeavour, they have also allowed a false sense of certainty to attach itself to the oversimplification of teaching and learning (Cochrane-Smith, 2003). This oversimplification of teaching and learning has become dominant, usurping broader and more authentic notions of teaching and learning, and I would argue is having deleterious effects on students.

Alternatively, if there were an acceptance of the inherent uncertainty as a characteristic of teaching and learning, rather than a flaw to be controlled, there would be an acknowledgement of the unique practical judgment of teachers. This, in turn, would broaden conceptions of teaching and teachers' work. Teaching would no longer be viewed as simply the application of a collection of rules, methods and strategies to predetermined, standardized learning levels. Instead, teaching would come to be regarded as a highly complex endeavour that is contextually dependent, pervaded with moral dilemmas, and enacted at an unrelenting pace.

More accurate conceptions of teaching such as these will go a long way towards aiding the "crises of the teaching profession" (Woods, 1993). One specific result could be a change in polices to recognize the need to allocate time for teachers away from their classrooms for the purposes of "slowing down" the velocity of teaching, so they could reflect on the particulars, give language to their deliberations, and "judge their judgments." Further, this time away from the classroom would need to be conceptualized
not as an added ‘bonus,’ ‘benefit,’ or ‘perk’ for the teacher, away from their main duties, but as being a critical component of teaching, whereby teachers can effectively make changes in their practical judgments, in their instruction, and in their practice. This is the particular location, where ‘real learning’ by the teachers could occur to make ongoing improvements in the educational experiences of our students.

**Possible Areas for Further Study**

The present study points to some related areas for further study, a few of which will be considered here.

First, we need to expand our understanding of teachers’ practical judgment. Additional close-up studies of teachers’ practice and their accompanying deliberations are needed. More data, involving more teachers, across various classroom settings would be advantageous to our understandings of teachers’ practice. However, the challenges for such efforts, as pointed out earlier, may be in finding points of access.

Another extension of this study could entail more in-depth investigation of some of the significant notions put forward by the experienced teachers in this study. For example, what is involved when an experienced teacher is “reading the classroom”? or, gauging “student engagement”? How do they determine levels of “student connections?” What is their rationale for “adjusting” rather than “abandoning” an intended lesson plan mid-teaching?

Many of the significant notions that were raised by the teachers in this study were related to the issue of “time.” As reported earlier, “lesson momentum”, and “instructional
pacing” were two of the most repeated themes of the think-alouds. It is of note that the subject of lesson momentum had been studied back in the 1970’s (Kounin, 1970; Brophy & Good, 1974; Dunkin & Biddle, 1974; Good, 1974). Most notably, in his studies, Kounin (1970) identified specific organizational and management techniques of teachers to be advantageous to student learning. Some of these included ”momentum,” “withitness” (i.e. awareness of all surroundings), “overlapping” (i.e. multi-tasking), and “smoothness” (i.e. transitions). The intent of Kounin’s research was to describe and then prescribe generalizable teacher behaviours towards the development of effective teaching models.

While both Kounin’s studies and the present study refer to the notion of “momentum” of lessons, the difference between the way the term is used is vast, and perhaps best understood in terms of Hargreaves’ (1994) work on teachers’ interpretation of time. Hargreaves proposed four interpretations of time in teachers’ work, including “micropolitical, sociopolitical, phenomenological and “techno rational” (p. 96). Kounin’s reference to “momentum” is as an objective variable, therefore it could be considered as “techno rational,” as was his work regarding “effective teaching models” which was clearly standards-driven. The participants in this study understand “momentum” to be their concerted effort to make decisions to keep up an effective lesson pace, which is dependent on their understanding of the particulars before them. As such, their interpretation of “momentum” is “phenomenological time.”

Hargreaves suggests that differences in interpretation of the same term (such as “momentum”) can cause huge misunderstandings, especially between teachers and those who do not work in the classroom setting. Consider, for example, the difference between the notion of “class composition” in a technical rational sense and in a phenomenological
sense. I submit that key issues of teaching, such as “momentum” and “class composition” need to be further studied, not from a technical rational sense, but in a phenomenological, or in a “lived sense” (Hargreaves, 1991) because the lived sense is more authentic to the classroom experience of our students and teachers.

Another area that deserves more study and attention is the relationship between teachers’ practical judgment and reflection. Specifically, what is the role of reflection on practical judgment? While Schon’s (1983) influential work in this area may be a starting place, I suggest that the notion of phronesis enlivens and challenges this concept, in that Schon did not emphasize the normative aspects of judgment in the way that phronesis does. In this study, the phronetic lens illuminated the teachers’ deliberations to include striving for ways to be purposive and responsive. As such, the notion of phronesis extends the concept of “reflective practitioner” to include the moral deliberations of teachers. This could prove transformative to our conceptions of teaching and the work of teaching.

Continuing with the issue of reflection, if experienced teachers view situations differently, as this study suggests, do experienced teachers also reflect differently? If so, in what ways? Dreyfus and Dreyfus (1986) suggests that those who reach the expert level are said to reflect back only occasionally, especially, when things do not go as they anticipated, and that they are likely to reflect more on their own processes of reflection, than the events themselves. Studies in this area could prove both interesting and helpful.

Lastly, according to the participants in this study, watching video of themselves teaching was very worthwhile. The teachers talked about how their initial feelings of self-consciousness turned into perceptions of the experience as “affirming,” “helpful,” and
“confirming”. One had stated that he had not experienced anything so “powerful” in terms of his professional development since his practicum, over fifteen years ago. Such feedback suggests the important role that videotaping may have on teachers reflecting on their practice and as a method to allow teachers to “judge their judgments” away from the unrelenting pace and demands of teaching. More studies that look at the possibilities of using videotaping in teaching are also warranted.

**Entrusting a New Direction**

I propose that one of the biggest obstacles in moving away from the current technical rational approach to education, is the need for ‘trust’ on the part of various stakeholders, most notably, policymakers, and parents. One definition of trust is “confidence in the reliability of a person or system, regarding a given set of outcomes, or events” (Giddens, 1990, p. 34). This definition delineates that individuals could have trust in a person and/or systems, both of which pose huge challenges in the current contexts.

Firstly, in these times of post-modernity, there is a definite skepticism of professions, (Hargreaves, 1997) and in particular, systems paid with public tax funds, where there are constant outcries for “accountability.” As mentioned previously, the word “accountability” has been paired with “standardized testing” so often in the present educational discourse, that they are often interpreted as synonymous, in spite of all the well-documented limitations of standardized tests. Any alternative types of account that may be offered, particularly more holistic, qualitative accounts, may be deemed to be inadequate because they are perceived as not as easy to interpret in terms of quantifiable
results. Ironically then, while the inadequacy of reducing a complicated endeavour such as learning to quantifiable test results scores is overlooked in the current reductionistic paradigm, more comprehensive indicators of educational accountability are not understood to be trustworthy.

Further, the implicit message of the audit-oriented culture of education in British Columbia is that educators and/or the educational system cannot be trusted “regarding a given set of outcomes or goals,” and as a result, need to be controlled. Educational officials espouse educational improvement through raising the bar of higher standards, implying that prior to their accountability-driven mandates, the bar was set at low standards for learning. Stated differently, the accountamania of the current educational context has promoted a distrust of educators. From my perspective, this distrust is further perpetuated by the rhetoric of policymakers who are often in their positions on a short term basis, and who want to give the appearance that they are doing something proactive to “improve” the educational system. They make no mention, for example, of positive results trends on international indicators of overall systemic success, (i.e. PISA tests outlined earlier) but rather, only announcements about ways that they will improve the educational system through new, tighter mandates.

Another definition of ‘trust’ suggests that it is having confidence that the other party is reliable, competent, honest, open and benevolent (Hoy & Tschannen-Moran 1999, 2003). While the first four of these traits are straightforward, the last one is worthy of a closer look. Hoy and Tschannen-Moran suggest benevolence involves “the confidence that one’s well-being or something that one cares about will be protected by the trusted party or group” (2003, p. 186). This raises the important point that there is
vulnerability on the part of the person who puts their trust in another. This vulnerability exists because their own well being, and/or that which they have a vested interest, is reliant on the party to whom they are placing their trust. As such, the party who is trusting can be said to be dependent on the other party. Clearly, asking policymakers and parents to be trusting of educators presumes a dependency, or assymetrical power relationship, and is a difficult mission amid the skepticism of postmodernity and the audit-oriented context dominating the educational discourse.

Moreover, dependence on another party is not without risk. Numerous writers have suggested that risk is, in fact, the “flip-side” to trust (Misztal, 1996). Simply stated, in order to have ‘trust’, there must be ‘risk’ because there must be a willingness to be vulnerable. Given the current educational context outlined earlier, it is difficult to fathom what would prompt policymakers and parents to be willing to be vulnerable to take risks to trust educators.

Yet, at the same time, and in spite of the times, it has also been pointed out that:

we place our trust in people and social institutions to forward our very existence...Indeed, trust serves as a fragile covenant between participants orchestrating individual behaviour and group order in social endeavours. In short, trust is critical to social functioning. It abets human survival in an intricate world (Shoho & Smith, 2004, p. 280).

If trust is understood to be critical to our existence in our intricate world, the question then becomes, what is needed for stakeholders to take the risk of trusting educators and the educational system?

Giddens proposes that what is needed is a ‘leap of faith’ (1991, p. 244) which changes the critical question slightly to, ‘How could stakeholders be persuaded to take
such a "leap of faith" in a new direction that is dependent upon trusting educators?"
Giddens suggests that in present times, what is needed is to establish 'active trust' (1994). This is defined as "trust in others or in institutions that has to be actively produced and negotiated" (p.187).

Presumably, this would require ongoing dialogue between the stakeholders, with the clear onus on educators to find ways to describe and explain their intents and actions, (i.e. their purposiveness and responsiveness) their rationales, (i.e. "practical judgements") and their accounts of student learning, (i.e. alternate assessment methods) in ways that are authentic to the endeavour, and agreeable to stakeholders both inside and outside of education. Further, for this trust to remain "active", the dialogue would need to be ongoing, not just based on short-term consultations. There is no doubt that working towards creating "active trust" would require time and resources, but since there would no longer be a need for the audit resources associated with the current "acountamania" mandates, those resources could presumably be diverted in this new direction.

Over time, "active trust" would cultivate a culture of trust. A culture of trust, in turn, would radically alter the underlying assumptions of various aspects of education. It is interesting to speculate on the following question: "How would educators, educational research, teacher education programs and educational policies be reconceived in a culture of trust?" A few, brief possibilities are provided here as an impetus towards thinking about a new direction in the educational discourse.

Teachers would be trusted as capable of enacting responsive and purposive judgements in their practice, rather than transmitters of inflexible, standardized curriculum and assessments. Educational systems would be trusted to manage resources
to support teachers in their practice, instead of requiring accountability contracts to ensure performance.

Educational research would need to be re-examined, first and foremost, in terms of its purposes and assumptions. For example, what are the assumptions about teachers in educational research? Are they based on a trust of teachers as capable of judging and of theorizing? I suggest that once initial questions such as these are unpacked, Action Research may finally become fully recognized as an essential approach to future educational research.

Teacher education programs could support new teachers to focus on the particulars of their developing practice, instead of worrying about compliance of covering generalized “Standards for the education, competence and professional conduct of educators” (BCCT, 2008). Teacher educators could make a concerted effort to work on theorizing practice in a way that can hold up in practice.

Finally, in a culture of trust, all implicit and explicit assumptions of educational policies would need to be closely scrutinized. Examining these assumptions would be an ideal way to begin the “active trust” discourse, which would include all stakeholders.

While we have only touched on the important aspect of trust in this last section, the relevant literature provides some idea as to the magnitude of our undertaking. I am requesting parents and policymakers take a “leap of faith” away from the current technical rational standards-based approach to education, (which I assert to be reductionistic to a point that it is having deleterious effects on our children) to a more humanistic approach to education that is based on an “active trust” of individual educators and the educational system.
One definition of the word ‘faith’ in the phrase “leap of faith” is “a firm belief in something for which there is no proof” (Merriam-Webster Online Dictionary, 2008). Some would argue that believing in something that has no proof is irrational. However, Good (1988) points out that to be “non-rational in this way, is decidedly rational as a strategy for coping with limits on one’s rationality” (p. 42). From this stance, a “leap of faith” away from the limits of a technical rational paradigm which is making claims to mandates that impose certainty in an inherently uncertain endeavour, to a paradigm that unabashedly acknowledges the uncertainty, and strives to be open, honest and humanistic in the face of the uncertainty, could be argued to be a decidedly rational strategy. This leap of faith is the first necessary step to cultivate a culture of trust, which would not only benefit the current educational context, but future challenges of education in an increasingly uncertain world. From this perspective, then, I am not just advocating for a “leap of faith” but even more importantly, for a “leap of hope.”
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